

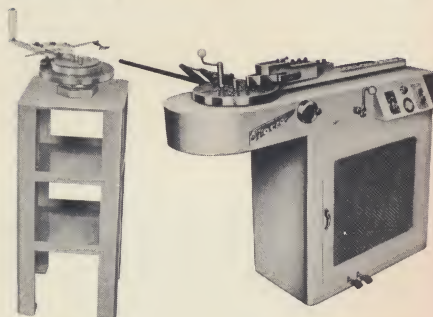


DI-ACRO

A DIVISION OF HOUDAILLE INDUSTRIES, INC.
LAKE CITY • MINNESOTA

benders

4-7



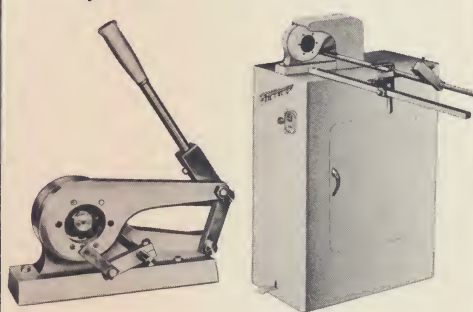
hand operated

power operated

Perform multitude of bending and forming operations in tubing, bar, angle, channel, pipe and other ductile materials. Standard accessories available.

rod parters

8



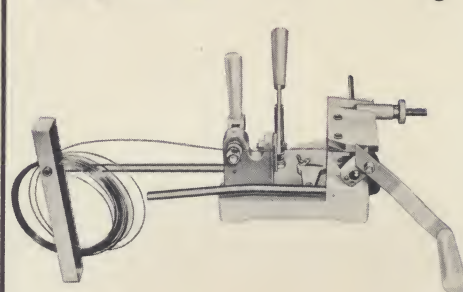
hand operated

power operated

Cut or "part off" rods and bars of various shapes and sizes without distortion and with burr-free surfaces. Wide range of material capacities.

spring winder

9

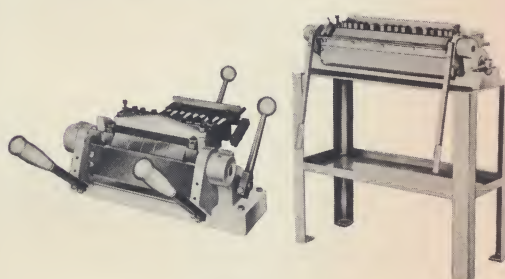


hand operated

Wind one or hundreds of compression, extension or torsion springs, each with the same degree of accuracy. Self contained unit.

leaf brakes

10-11

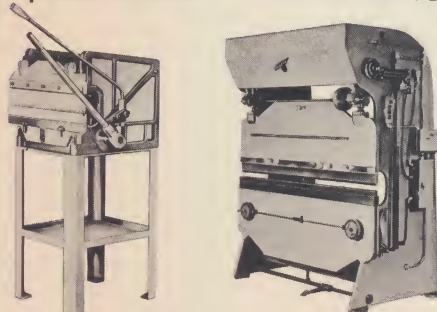


hand operated

Function as box and pan former, bar folder, radius and open-end formers by simply changing the tooling. Replace dies in many operations.

press brakes

12-13



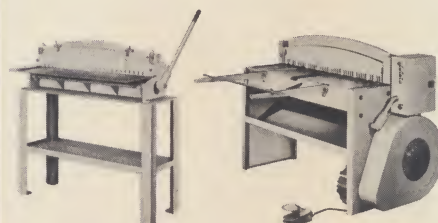
hand operated

power operated

Form materials that are not satisfactorily or economically formed with leaf brakes also perform punching operations.

shears

18-23



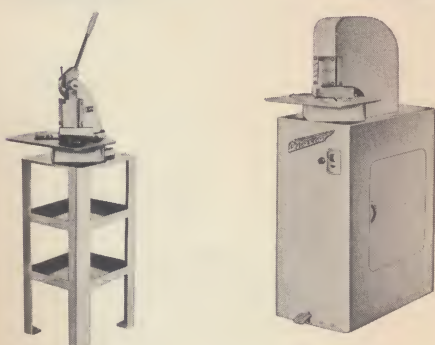
hand operated

power operated

Accurately cut materials from light gauge and heavier gauge metals to plastics, cobalt and stainless steels.

notchers

24-25



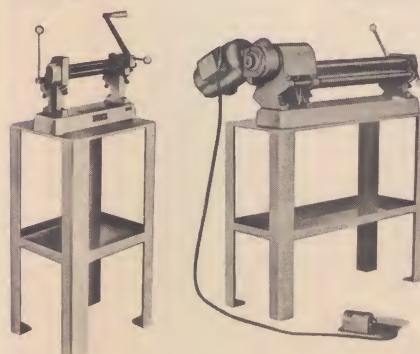
hand operated

power operated

Rapidly and accurately cut notches in sheet metals. Box, chassis and panel blanks can be sheared to precision standards. Minimum setup required.

rollers

26-27



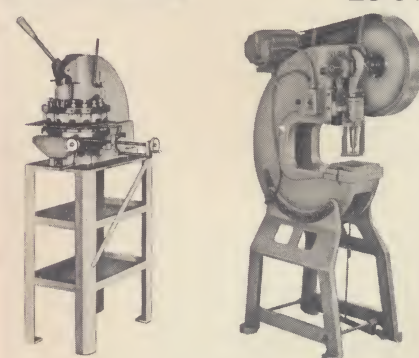
hand operated

power operated

Form unusual shapes in sheet and other ductile materials due to patented cam-operated idler roll.

punch presses

28-31



hand operated

power operated

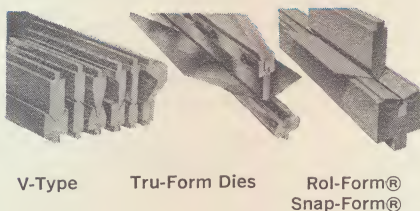
Punch, blank, form and emboss . . . versatile and efficient. Listing of available punch and die sets.





press brake dies 14-17

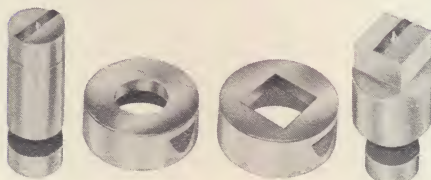
Standard cataloged dies available promptly for all types of presses. Specials available on request. Lengths from 6 inches to 12 feet.



V-Type Tru-Form Dies Rol-Form® Snap-Form®

single station punches and dies 32-34

Fit any punch press. Off-the-shelf delivery on standard cataloged items: rounds, squares, ovals, rectangles and many electronic openings.



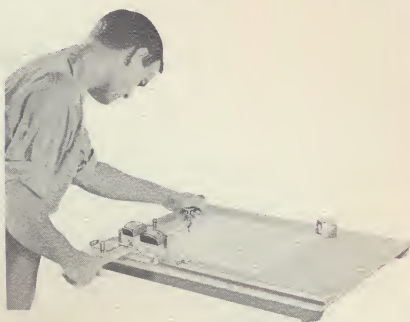
adjustable punches and dies 34-39

Simultaneously punch multiple holes in one operation. Reuse tooling over and over again. Can be used in all presses with 6 1/4 in. nominal shut height. Saves cost of special dies.



layout machines 40

Low cost method of accurate layout of both sheet and plate materials. Cuts hand layout time over 50 per cent.



■ ENGINEERING SERVICE

The experience accumulated by Di-Acro Engineers over a period of many years in solving thousands of duplicating problems enables them to be of special assistance to you our customers. If you'd like help in working out your forming and cutting problems —



just send us a blueprint, dimensioned sketch or sample of the part to be duplicated. Include material for test purposes if possible. A recommendation can be made promptly — without obligation.

■ BUYING INFORMATION

1. Immediate delivery — all standard cataloged single station punches and dies, adjustable punches and dies, press brake dies and related Di-Acro Machine accessories are available on immediate "off the shelf" delivery. Orders received in the morning are usually shipped the same day, in most cases delivery from stock is also available on Di-Acro Precision Metalworking Machines.
2. Wiring — be sure to specify wiring requirements when power machines are ordered.

All costs f.o.b. Lake City, Minn. Terms — net 30 days.

■ AVAILABLE LITERATURE AND FILMS

For more complete engineering data and information unavailable in this catalog, please consult Di-Acro, Lake City, Minnesota, or any of their sales representatives. Catalogs and bulletins on individual Di-Acro products are available for the asking — order by code listing. Available also are helpful films showing operations of certain types of Di-Acro Equipment. Arrangements for the use of these should be made with the home office.

■ WARRANTY

Di-Acro Precision Metalworking Equipment is manufactured from the finest of materials with the highest standards of workmanship. Any part found defective will be replaced free of charge for one year from date of purchase.



BEND AND FORM METALS EASIER, BETTER, and FASTER ... put money in your pocket

Di-Acro Precision Benders are ruggedly built, compact, portable. They are adapted for experimental short run operation and production line use ... simple and easy to operate ... backed by a one-year warranty ... offer a wide range of radius forming in all types of light-weight, ductile materials. Di-Acro Benders form parts to die accuracy without the cost or time loss of die-making ... often pay for themselves on the first job.

a handy CHECK LIST for bender selection

1. Do you form a wide range of materials: tubing, angle, channel, extrusion, bus bars, other solid materials and are some of these formed in large quantities and others short run? An all-purpose hydraulically operated rotary bender will take the muscle out of bending.
2. Are you engaged in one specialized operation such as bending tubing on a high-speed basis? A hydraulically operated power bender again is your best answer.
3. Do you bend small parts in quantities? This job may be best done with a small, hand operated bender such as the Di-Acro Models No. 1 or No. 1A which can be operated within the radius of an operator's arm — no need to walk around a machine.
4. Do you plan to use a bender in your experimental department? The wide forming range of a large, hand operated bender will probably suit your needs best.

Careful study of the specifications, capacities, and working range of Di-Acro Precision Benders will help you select the unit suited to your requirements. The Di-Acro Engineering Service Department is available to aid you in this choice.



32 page Bending Manual — D-BM

This handy booklet describes and illustrates in step-by-step fashion over 20 different bending operations, with over 90 diagrams and charts together with valuable tooling suggestions. Ask for catalog D-BM no obligation.

HAND OPERATED BENDERS

Di-Acro Benders are available in five hand operated models. Bending capacity covers material range from 1/16 in. wire to 1 in. round steel bar and equivalent. Radius forming possibilities from 0 to 12 in. Torrington rollers installed in main bearing reduce friction, facilitate easy operation, and help increase bending capacity.

A feature of Di-Acro Bender No. 4 — the largest capacity hand operated Di-Acro Bender — is a ratchet mechanism which can be engaged when operator is working with heavy materials. Engaging the ratchet increases forming power, decreases speed. For speed in working lighter materials, ratchet can be disengaged and bender operated in direct drive. Complete assortment of accessories for radius and tube forming is available (see pages 6-7).

HYDRAULICALLY OPERATED BENDERS

Basic to the design of Di-Acro Hydra-Power Benders is a driving or bending spindle on which either the No. 6 or the No. 8 setup can be easily mounted. For example, you can purchase a Hydra-Power Bender with No. 6 setup today and add the No. 8 setup later if needed or vice versa. Correct bending speed is always at operator's fingertips through variable flow control valve — a part of the Vickers hydraulic system incorporated in these machines. All controls centrally located. Both hand and floor controls provided. Bender can be operated in clockwise or counterclockwise direction, making easy the formation of parts containing numerous bends.

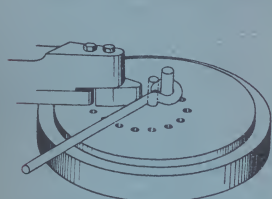
No. 6 setup with toggle clamp and forming roller is basic tooling for tube bending. Also, practical for bending angle, channel, moulding, and extrusions.

No. 8 setup with mounting plate and forming nose is ideal for forming bar and flat stocks and pipe. Especially valuable for bending eye bolts; will form either centered or off-centered eye bends in one operation. Complete assortment of radius accessories available (see pages 6-7).

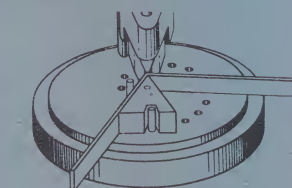
CONTOUR OR PROFILE FORMING can be accomplished by equipping the Hydra-Power Bender with a floating nose which will adjust to contour of forming block on bending spindle as spindle is revolved. Write for full information.

TYPICAL BENDS FORMED ON DI-ACRO BENDERS

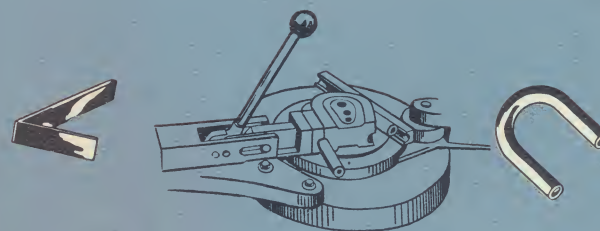
Drawings are excerpts from bending manual D-BM described above



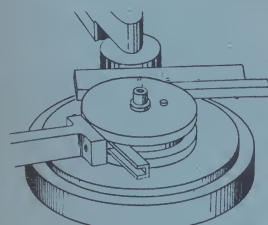
CENTERED EYE BENDING



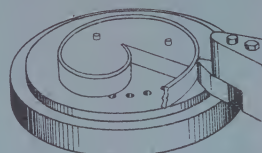
ZERO RADIUS BENDING



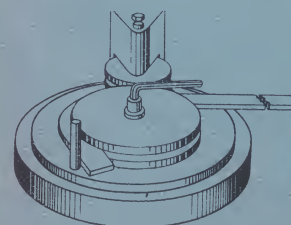
TUBE BENDING



CHANNEL BENDING, Flanges Out



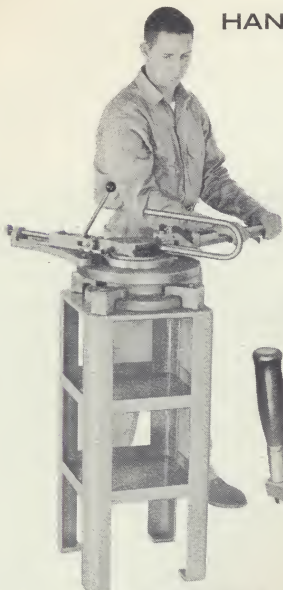
SCROLL BENDING



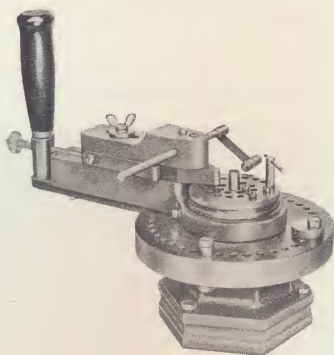
EDGEWISE BENDING



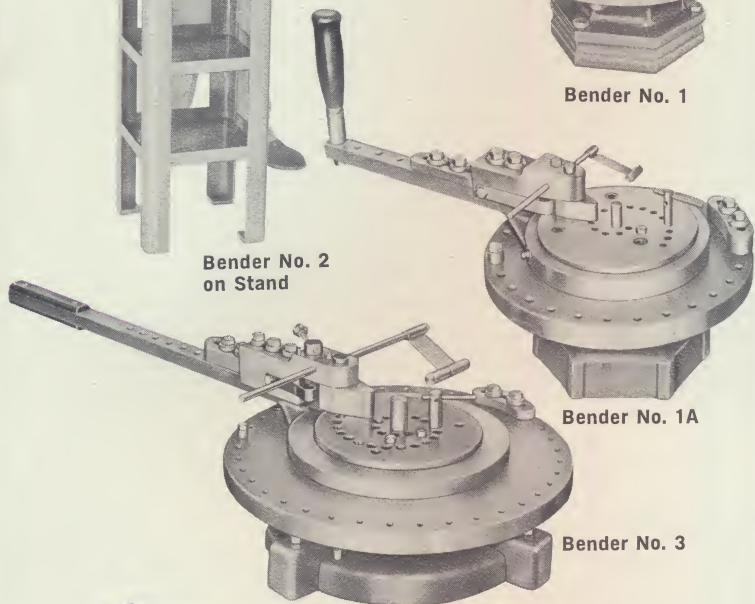
HAND OPERATED BENDERS



Bender No. 2
on Stand



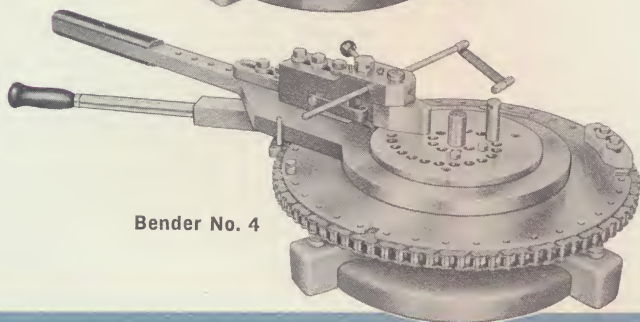
Bender No. 1



Bender No. 1A

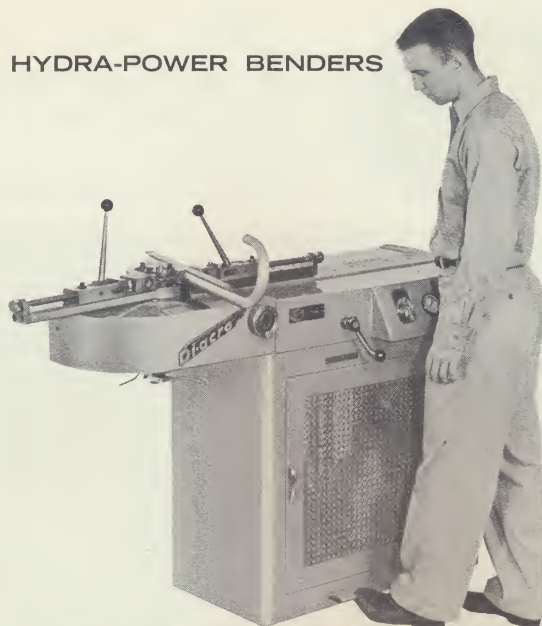


Bender No. 3

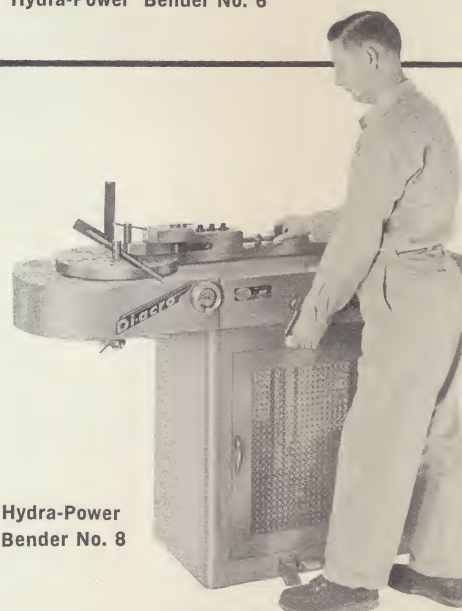


Bender No. 4

HYDRA-POWER BENDERS



Hydra-Power Bender No. 6



Hydra-Power
Bender No. 8

Specifications

Di-Acro Bender	No. 1	No. 1A	No. 2	No. 3	No. 4
Radius Capacity	2"	6"	9"	12"	12"
Height of Std. Forming Nose	1/2"	3/4"	1"	1-1/2"	1-1/2"
Built-up Nose available	1"	2"	3"	4"	4"
Center Pin Hole — dia.	3/8"	1/2"	1"	1"	1"
Operating Leverage	8"	16"	29"	40"	40"
Floor Space, on stand	15"x15"	32"x32"	56"x56"	82"x82"	78"x78"
Weight lbs.: Net	22	55	140	215	250
Shipping	25	75	165	300	330
Export	37	85	210	320	350
Cost	\$95.00	\$165.00	\$235.00	\$315.00	\$475.00
Extension Handle	7.50		10.00	10.00	
Quick-Lok Clamp with 1 Clamp Block	\$40.00	\$ 45.00	\$ 65.00	\$ 65.00	\$ 75.00
STAND, 33" ht. (one stand size fits all Benders)	\$52.50	\$ 52.50	\$ 52.50	\$ 52.50	\$ 52.50

Weight lbs.: Net 85; Shipping 90; Export 125

MATERIAL CAPACITIES	No. 1	No. 1A	No. 2	No. 3	No. 4
Round Mild Steel Bar	3/16"	5/16"	1/2"	5/8"	1"
Square Mild Steel Bar	1/8"	1/4"	3/8"	1/2"	3/4"
Steel tubing — 16 gauge	5/16"	1/2"	3/4"	1"	1-1/4"
Standard Iron Pipe	—	—	3/8" I.P.S.	1/2" I.P.S.	1" I.P.S.
Flat Steel Bar (bent flat)	1/8"x3/4"	3/16"x1"	1/4"x1-1/2"	1/4"x2"	3/8"x4"
Flat Steel Bar (Edgewise)	1/16"x1/2"	1/8"x1/2"	1/8"x3/4"	1/8"x1"	1/4"x1"
Angle	1/16"x1/2"x1/2"	1/8"x1/2"x1/2"	1/8"x3/4"x3/4"	1/8"x1"x1"	3/16"x1"x1"
Channel	1/16"x1/4"x1/2"	1/16"x1/2"x1/2"	1/8"x3/8"x3/4"	1/8"x1/2"x1"	3/16"x1/2"x1"

STANDARD EQUIPMENT

Bend Locating Gauge — setting this gauge allows any number of parts to be duplicated.

Angle Stop — locating this determines degree of bend.

Locking Pin — adjusting this securely clamps material.

Center Pin — Provides one radius setup plus mount for other tooling.

Specifications

DI-ACRO HYDRA-POWER BENDER	No. 6	No. 8
Radius Capacity (can be increased)	9"	24"
Maximum degree of bend	280 degree	360 degree
Hydraulic pressure	1,000 PSI	1,000 PSI
Maximum 90° Bends per minute (empty)	96	96
Motor optional 220-440 volt A.C. 3 phase 60 cycle		
Hydraulic Cylinder	3 hp	3 hp
Hydraulic Pump — flow control valve	3-1/2" bore	3-1/2" bore
Vickers	Vickers	Vickers
Floor Space	18" x 54"	18" x 54"
Weight lbs. Net	1080	1140
Shipping	1180	1240
Export	1280	1340
Cost	\$2550.00	\$2490.00
No. 8 Mounting Plate Set-up for bar, flat or pipe bending	\$ 245.00	—
No. 6 Toggle Clamp Set-up for tube, angle, channel bending	—	\$ 305.00

MATERIAL CAPACITIES

	No. 6	No. 8
Centered Eye — Round mild Steel Bar (one operation)	—	3/4"
Centered Eye — Round Mild Steel Bar (two operations)	—	1"
Round Mild Steel Bar	5/8"	1"
Square Mild Steel Bar	1/2"	3/4"
Flat Steel Bar — Bent Flat	1, 4"x2"	3/8"x4"
Flat Steel Bar — Edgewise	1, 4"x1"	3/8"x1"
Steel Tubing — 16 gauge	1-1/4" O.D.	1-1/2" O.D.
Standard Iron Pipe	3/4" I.P.S.	1-1/4" I.P.S.*
Angle	1/8"x1"x1"	3/16"x1"x1"
Channel	1/8"x1/2"x1"	3/16"x1/2"x1"

*Requires hydraulic cylinder with 4" bore.

STANDARD EQUIPMENT

Angle Control — allows a series of bends of varying degrees to be progressively made in a single part without removing the piece from the machine.

Material Length Gauge — adjustment of this allows a large quantity of identical parts to be duplicated.

No. 6 only — Rotating Arm

No. 8 only — Material Locking Pins (3)



STANDARD RADIUS ACCESSORIES

The accessories illustrated and listed below are used for bending round, flat, square, hexagon and all other solid materials. These parts are properly hardened to withstand forming pressure and are precision ground for extreme accuracy. They are also available unhardened so they can be further processed by the user for bending materials which must be confined or supported during the bending operation, no extra charge.

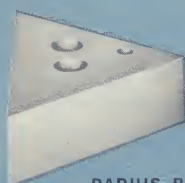
When ordering accessories for Benders, state model of Bender and radius desired.

Spring-back — when determining the size of the Radius Pin or Collar, spring-back due to elasticity in the material to be formed should be compensated for. A frequent way is by overbending slightly beyond the required angle. After the amount of spring-back has been determined, the

Angle Gauge can be set so that all bends will be duplicated. In addition to overbending, it may be necessary in some cases to form the material around a Radius Pin or Radius Collar of smaller radius than the desired bend. The actual size of the Radius Pin or Collar can best be determined by experiment for the material and conditions.

FORMING ROLLER — To eliminate work marking and reduce operator effort, it is often desirable to replace the Forming Nose, furnished as standard equipment, with a Forming Roller.

BUILT-UP FORMING NOSE — This is used to increase the material width range of Di-Acro Benders. Must be used with wider or stacked radius collars.



RADIUS BLOCK

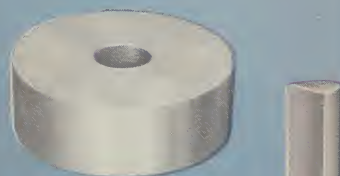


QUILL RADIUS PIN

SHOULDER RADIUS PIN



RADIUS COLLAR



FORMING ROLLER



BUILT-UP FORMING NOSE

Inches Radius	Di-Acro Benders			
	No. 1	No. 1A	No. 2	Nos. 3, 4, 6, 8
■ RADIUS BLOCK				
Zero	\$4.50	\$ 6.50	\$ 8.50	\$12.00
1/32	8.00	10.00	—	—
1/16	8.00	10.00	15.00	20.00
3/32	8.00	10.00	—	—
1/8	—	—	15.00	20.00
3/16	—	—	15.00	20.00
1/4	—	—	—	20.00
■ QUILL RADIUS PIN				
1/16	2.75	3.00	—	—
3/32	2.75	—	—	—
1/8	2.75	3.00	3.50	4.00
5/32	2.75	—	—	—
3/16	.75*	3.00	3.50	4.00
1/4	—	1.00*	3.50	4.00
5/16	—	—	3.50	4.00
3/8	—	—	3.50	4.00
7/16	—	—	3.50	4.00
1/2	—	—	1.50*	1.75*
■ SHOULDER RADIUS PIN				
7/32	3.00	—	—	—
1/4	3.00	—	—	—
5/16	3.00	3.50	—	—
3/8	3.00	3.50	—	—
7/16	3.00	3.50	—	—
1/2	—	3.50	—	—
9/16	—	3.50	4.00	5.00
5/8	—	3.50	4.00	5.00
11/16	—	—	4.00	5.00
3/4	—	—	4.00	5.00
13/16	—	—	4.00	5.00
7/8	—	—	4.00	5.00
■ FORMING ROLLER				
	1-1/4 in. Dia. 3.50	1-1/2 in. Dia. 4.00	3 in. Dia. 7.50	3 in. Dia. 9.00
■ BUILT-UP FORMING NOSE				
	1 in. Height 5.00	2 in. Height 7.50	3 in. Height 13.50	4 in. Height 17.50

Inches Radius	Di-Acro Benders			
	No. 1	No. 1A	No. 2	Nos. 3, 4, 6, 8
■ RADIUS COLLAR				
1/2	\$3.25	—	—	—
9/16	3.25	—	—	—
5/8	3.25	—	—	—
11/16	3.25	\$ 4.00	—	—
3/4	3.25	4.00	—	—
13/16	3.50	4.00	—	—
7/8	3.50	4.25	—	—
15/16	3.50	4.25	\$ 5.50	\$ 7.00
1	3.50	4.50	5.50	7.00
1- 1/16	—	4.50	5.50	7.00
1- 1/8	—	4.75	6.00	7.50
1- 3/16	—	4.75	6.00	7.50
1- 1/4	—	5.00	6.50	8.00
1- 5/16	—	5.00	6.50	8.00
1- 3/8	—	5.25	7.00	8.50
1- 7/16	—	5.25	7.00	8.50
1- 1/2	—	5.50	7.50	9.00
1- 9/16	—	5.50	7.50	9.00
1- 5/8	—	5.75	8.00	9.50
1-11/16	—	5.75	8.00	9.50
1- 3/4	—	6.00	8.50	10.00
1-13/16	—	6.00	8.50	10.00
1- 7/8	—	6.25	9.00	10.50
1-15/16	—	6.25	9.00	10.50
2	—	6.50	9.50	11.00
2- 1/8	—	—	—	11.50
2- 1/4	—	—	—	12.00
2- 3/8	—	—	—	12.50
2- 1/2	—	—	—	13.00
2- 5/8	—	—	—	13.50
2- 3/4	—	—	—	14.00
2- 7/8	—	—	—	14.50
3	—	—	—	15.00

* Supplied as Standard with Machine

NOTE: For special in-between sizes, add \$2.00 to the accessories in the first column, \$3.00 in second column, \$4.00 in third column and \$5.00 in the fourth column. Order by radius and Bender number only.

Remember — Radius = 1/2 diameter.

All quotations net — F.O.B. Lake City, Minn. Subject to change without notice.

TUBE FORMING ACCESSORIES

There are two tube bending methods:

1. The "Forming Roller" method is recommended for (a) all large bends where centerline radius is at least 4 times the outside diameter (O.D.) of the tube, (b) pipe and heavy wall tubing, (c) very small diameter tubing.
2. The "Follow Block" method, which allows forming thin wall tubing to a centerline radius as small as 2-1/2 times the O.D. without using inside mandrels or fillers.

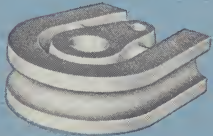
Guard against spring-back (see page 6). To prevent the tube slipping during forming, the Quik-Lok Clamp is recommended, used with Type A Radius Collar. For locking smaller size tubing the Clevis and Swivel Clamps with Type B Radius Collars are used on No. 1 and No. 1A Benders.

When ordering special sizes between those listed below, use closest size and add the following to cost of Radius Collar: No. 1 Bender — \$4.00, No. 1A — \$6.00, No. 2 — \$8.00, No. 3 — \$10.00, No. 4 — \$10.00. For sizes exceeding the maximum radius or tube size listed, write for special quotation.

QUIK-LOK CLAMP



(A) GROOVED RADIUS COLLAR FOR USE WITH QUIK-LOK



(R) CLEVIS CLAMP FOR NO. 1 AND 1A BENDERS ONLY



(B) GROOVED RADIUS COLLAR FOR USE WITH SWIVEL OR CLEVIS ON NO. 1 AND 1A BENDERS ONLY



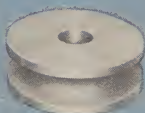
(S) SWIVEL CLAMP FOR NO. 1 AND 1A BENDERS ONLY



(P) CLAMP BLOCK FOR USE WITH QUIK-LOK CLAMP



(N) FOLLOW BLOCK



(J) GROOVED FORMING ROLLER



(T) FORMING ROLLER.

Parts Required for "Forming Roller" Bending Method

See illustrations below for part numbers.

A or B — Grooved Radius Collar — one for every radius for each tube size.

J — Grooved "Forming Roller" — one for each tube size only.

P — Clamp Block — for use with Quik-Lok Clamp on all Di-Acro Benders. One for each tube size.

S or R — Swivel and Clevis Clamps — for No. 1 and No. 1A Benders. One for each tube size.

Parts Required for "Follow Block" Bending Method

See illustrations below for parts numbers.

A or B — Grooved Radius Collar — one for every radius for each tube size.

T — Forming Roller — one covers all "Follow Block" operations.

N — Follow Block — one for each tube size only. Length listed will accommodate a 180° bend.

P — Clamp Block — for use with Quik-Lok Clamp on all Di-Acro Benders. One for each tube size.

S or R — Swivel and Clevis Clamps — for No. 1 and No. 1A Benders. One for each tube size.

Tube Dia.	A or B Radius Collar *C/L Rad.	N Follow Block	J Grooved Forming Roller	P, S, R Clamp Blocks Swivel or Clevis	T Forming Roller
BENDER No. 1, Maximum Radius Capacity 2 inches					
1/8"	3/8"—\$ 4.50 3"—\$ 4.00				
	3/4"— 5.50 3"— 4.00				
1"	1"— 6.50 6"— 6.50				
3/16"	1/2"— 5.50 3"— 4.00				
	3/4"— 6.50 3"— 4.00		6.00	3.00	3.50
1"	1"— 7.50 6"— 6.50				
1/4"	5/8"— 6.50 3"— 4.00				
	1"— 7.50 6"— 6.50		6.00	3.00	3.50
	1-1/4"— 8.50 6"— 6.50				
5/16"	3/4"— 7.50 3"— 4.00				
	1"— 8.50 6"— 6.50		6.00	3.00	3.50
	1-1/4"— 9.50 6"— 6.50				
3/8"	1"— 8.50 6"— 6.50		6.00	3.00	3.50
	1-1/4"— 9.50 6"— 6.50				
BENDER No. 2, Maximum Radius Capacity 9 inches					
1"	1"— 12.50 6"— 8.50				
3/8"	2"— 17.50 9"— 11.00		13.50	3.50	7.50
	3"— 22.50 12"— 13.50				
	1-1/8"— 16.00 6"— 8.50				
7/16"	2"— 20.00 9"— 11.00		13.50	3.50	7.50
	3"— 25.00 12"— 13.50				
	1-1/4"— 18.50 6"— 8.50				
1/2"	2"— 22.50 9"— 11.00		13.50	3.50	7.50
	3"— 27.50 12"— 13.50				
	1-3/4"— 21.50 6"— 8.50				
5/8"	3"— 30.00 12"— 13.50		13.50	3.50	7.50
	4"— 37.50 15"— 16.00				
	2"— 25.00 9"— 11.00				
3/4"	3"— 32.50 12"— 13.50		13.50	3.50	7.50
	4"— 40.00 15"— 16.00				
	1-1/2"— 25.00 6"— 8.50				
1/4" I.P.S.	2"— 29.00 9"— 11.00		13.50	3.50	7.50
	3"— 40.00 12"— 13.50				
3/8" I.P.S.	1-3/4"— 29.00 6"— 8.50				
	3"— 40.00 12"— 17.00		13.50	3.50	7.50
	4"— 52.50 15"— 20.50				
NOTES: Quik-Lok Clamps with one Clamp Block for Benders No. 1, \$40.00; No. 1A, \$45.00; No. 2, \$65.00; No. 3, \$65.00; No. 4, \$75.00.					
*When ordering Radius Collar A for use with Quik-Lok Clamp add \$3.00 for Bender No. 1; \$5.00 for Bender No. 1A. All Radius Collars listed in table above for Benders No. 1 and 1A are Type B for use with swivel or clevis.					
All quotations net — F.O.B. Lake City, Minn. Subject to change without notice.					
Tube Dia.	A or B Radius Collar *C/L Rad.	N Follow Block	J Grooved Forming Roller	P, S, R Clamp Blocks Swivel or Clevis	T Forming Roller
BENDER No. 1A, Maximum Radius Capacity 6 inches					
1/4"	5/8"—\$ 6.50 3"—\$ 5.00				
	1"— 7.50 6"— 7.50				
	1-1/2"— 8.50 6"— 7.50				
5/16"	3/4"— 7.50 3"— 5.00				
	1"— 8.50 6"— 7.50		7.00	3.00	4.00
	1-1/2"— 9.50 6"— 7.50				
3/8"	1"— 8.50 6"— 7.50				
	2"— 11.00 6"— 7.50		7.00	3.00	4.00
	3"— 15.00 6"— 7.50				
7/16"	1-1/4"— 9.50 6"— 7.50				
	2"— 12.00 6"— 7.50		7.00	3.00	4.00
	3"— 16.00 6"— 7.50				
1/2"	1-1/4"— 10.50 6"— 7.50				
	2"— 13.50 6"— 7.50		7.00	3.00	4.00
	3"— 17.50 6"— 7.50				
BENDERS Nos. 3 & 4, and POWER BENDERS Nos. 6 & 8					
1/2"	1-1/4"— 19.50 6"— 10.00				
	2"— 25.00 9"— 13.50		15.00	4.50	9.00
	3"— 32.00 12"— 17.00				
5/8"	1-3/4"— 24.00 6"— 10.00				
	3"— 35.00 12"— 17.00		15.00	4.50	9.00
	4"— 47.00 15"— 20.50				
3/4"	2"— 28.00 9"— 13.50				
	3"— 37.50 12"— 17.00		15.00	4.50	9.00
	4"— 45.00 15"— 20.50				
7/8"	2-1/2"— 32.50 9"— 13.50				
	4"— 47.50 15"— 20.50		15.00	4.50	9.00
	6"— 67.50 21"— 27.00				
1"	3"— 37.50 12"— 17.00				
	4"— 50.00 15"— 20.50		15.00	4.50	9.00
	6"— 70.00 21"— 27.00				
1-1/8"	3"— 40.00 12"— 17.00				
	4"— 55.00 15"— 20.50		15.00	4.50	9.00
	6"— 72.50 21"— 27.00				
1-1/4"	4"— 60.00 15"— 20.50				
	5"— 70.00 18"— 24.00		15.00	4.50	9.00
	6"— 75.00 21"— 27.00				
1/4" I.P.S.	1-1/2"— 25.00 6"— 10.00				
	2"— 29.00 9"— 13.50		15.00	4.50	9.00
	3"— 40.00 12"— 17.00				
3/8" I.P.S.	1-3/4"— 29.00 6"— 10.00				
	3"— 40.00 12"— 17.00		15.00	4.50	9.00
	4"— 52.50 15"— 20.50				
1/2" I.P.S.	2-1/2"— 38.00 9"— 13.50				
	4"— 55.00 15"— 20.50		15.00	4.50	9.00
	6"— 75.00 21"— 27.00				
3/4" I.P.S.	3"— 40.00 12"— 17.00				
	4"— 55.00 15"— 20.50		15.00	4.50	9.00
	6"— 72.50 21"— 27.00				
1" I.P.S.	4"— 60.00 15"— 20.50				
	5"— 70.00 18"— 24.00		15.00	4.50	9.00
	6"— 75.00 21"— 27.00				

di-acro PRECISION ROD PARTERS

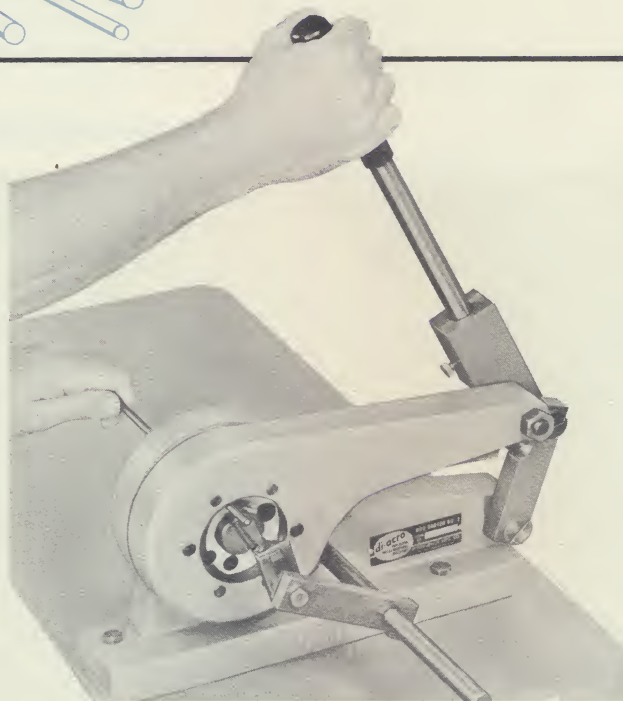


- BURR-FREE CUTTING OF BAR STOCK
- NO FURTHER PROCESSING REQUIRED

On production lines or in experimental shops, Di-Acro Rod Parters solve problems in cutting solid bar stock — round, square, rectangular, or hexagonal. These precision machines actually “part off” rather than cut, with a combination shearing-breaking action.

The top photo at right shows stock closely confined in the two cutting heads. One cutting head is stationary; the other moves in response to a pull on the operating handle. The second head moves just enough to start a shearing action; once a cut has been made in confined material, remaining portion of the rod breaks off. Hard materials such as cold rolled steel and hard aluminum have an excellent “parting” action. Although hot rolled bar stock has a slight tendency to distort or “egg shape” it is often satisfactorily parted in the Di-Acro Rod Parter (optional dies with oversize holes are available).

Cutting heads of alloy steel, properly hardened and ground, assure high degree of accuracy. Heads are reversible for double service; easily removed for sharpening, easily replaced. Special heads for cutting hex, square and rectangular stock available.



Hand Operated

The powerful multiple leverage arrangement, exclusive to this machine, provides exceptional ease of operation. Cutting heads of Di-Acro Rod Parter No. 1 have 11 holes graduated in size from 1/16 in. to 3/8 in. diameter in steps of 1/32 in. There are 10 holes from 1/16 in. to 5/8 in. diameter graduated by 1/16 in. in Di-Acro Rod Parter No. 2. All holes are approximately .003" oversize, .015 oversize holes are required for hot rolled stock.

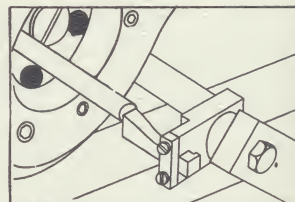
Power Operated

All features of hand operated models have been incorporated in the power rod parter. Motor driven flywheel and foot actuated clutch provides instantaneous cutting action. Production rate is limited only by the speed with which stock can be fed.

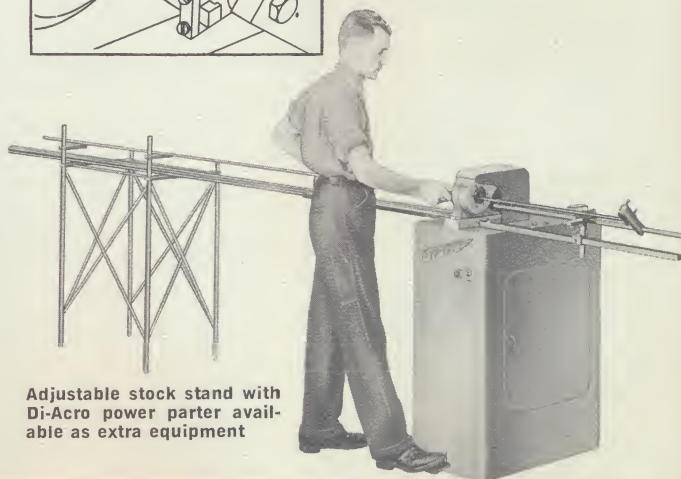
Speedmatic gauge is an accessory for the power rod parter consisting of a limit switch and solenoid which automatically trips clutch as material is gauged making possible a high rate of production.



WANT MORE INFORMATION — a 12 page bulletin describing Di-Acro Rod Parters is yours for the asking. Ask for it by code listing D-RPM.



Ejectomatic Gauge allows the separate operations of gauging, parting and ejecting to be automatically obtained in a single working cycle — especially valuable when cutting lengths under 6 inches



Adjustable stock stand with Di-Acro power parter available as extra equipment

Specifications and Capacities

DI-ACRO ROD PARTER HAND OPERATED

	No. 1	No. 2
Maximum Material Capacity, steel bar.....	3/8"	5/8"
Cutting Head Thickness	1/2"	1"
Bench space required with gauge.....	9-1/2" x 21-1/2"	16" x 32"
Weight lbs., Net	25	60
Shipping	28	78
Export	35	82
Cost, including Ejectomatic Gauge.....	\$110.00	\$165.00
Extra Standard Heads (pair).....	\$46.20	\$55.00
Extra for irregular shaped holes (each).....	\$45.00	\$45.00

STANDARD EQUIPMENT

Ejectomatic Gauge illustrated above, two operating handles.

NOTE: Standard dies in all Rod Parters are for parting round cold finished steel bar stock. If hot rolled bar stock is to be parted, specify this on order as an optional set of die heads (holes approximately .015" oversize) is available.

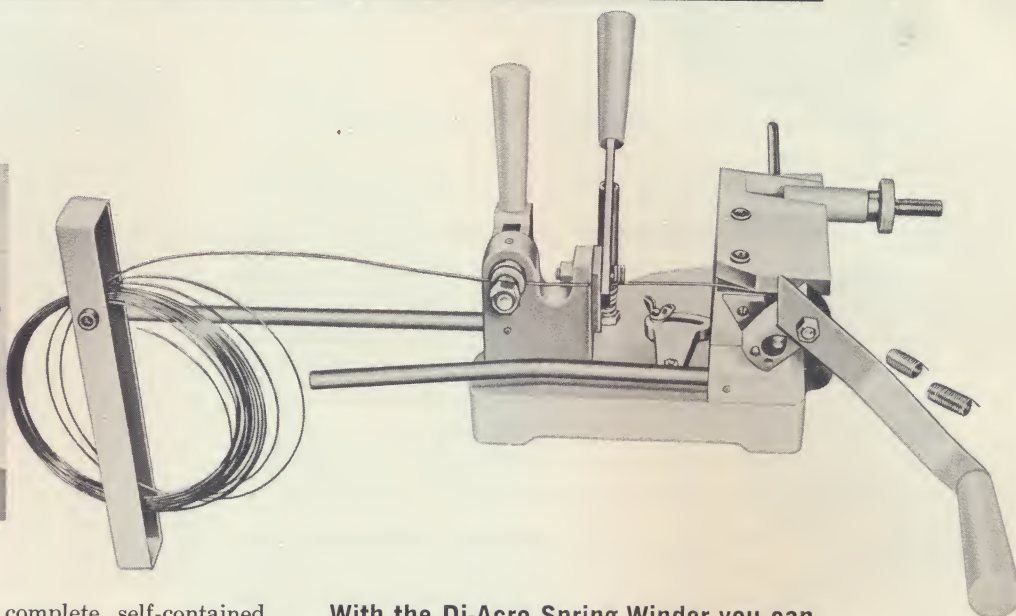
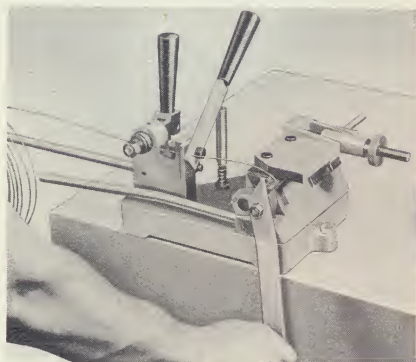
DI-ACRO ROD PARTER POWER OPERATED

Maximum Material Capacity — steel bar.....	5/8"
Cutting Head Thickness	1"
Weight of Flywheel	85 lbs.
Strokes per Minute	180
Motor, 110 volt A.C. single phase.....	1/2 hp
Motor Speed	1750 rpm
Operating Height.....	40"
Floor space required with gauge.....	28" x 48"
Weight lbs., Net.....	450
Shipping	520
Export	550
Cost	\$645.00
Speed-matic Gauge for automatic cutting action.....	\$145.00
Materials Stock Stand.....	\$ 45.00
Extra Standard Heads (pair).....	\$55.00
Extra for irregular shaped holes (each).....	\$45.00

STANDARD EQUIPMENT

All electrical equipment; Ejectomatic Gauge; motor.

di-acro PRECISION SPRING WINDER



The Di-Acro Spring Winder is a complete, self-contained unit, with built-in cut-off device. Just mount on a bench or stand and its ready for operation. Hand operated — no special fixtures needed or motor required.

With a Di-Acro Spring Winder you can make the springs you need in a matter of minutes, right in your own shop. No more special orders and costly delays when springs are needed for replacement, prototypes, or experimental work. No expensive short runs on automatic equipment when the number of springs needed is small. The Di-Acro Spring Winder will be indispensable, too, where a quantity of springs may be needed but where delivery cannot be made in time to avoid costly delays.

Simple and easy to operate, even without special skill or experience. Wire is held securely, without kinking, while winding. No fuss or wasted time trying to thread wire into a difficult holding or locking device. No bother or inaccuracy adjusting tension control each time a spring is wound.



SPRING WINDING BULLETIN D-SW—Explains in series of photos exactly how extension and compression springs are wound.

With the Di-Acro Spring Winder you can . . .

1. Wind one spring or hundreds.
2. Duplicate springs of the same load capacity.
3. Make springs to any length.
4. Wind round, flat, square and rectangular wire.
5. Set up for operation in a jiffy; turn out springs many times faster than you could with a lathe or other method.
6. Form any gauge wire up to .100" diameter. The cut-off incorporated in this machine will handle up to .085 in. wire. Beyond that capacity a hand cutter is necessary.
7. Move the Di-Acro Spring Winder to any location, can be either bench or vise mounted.

Spring Winder \$110.00

Complete with six standard arbors in the following sizes: 1/8, 1/4, 3/8, 1/2, 5/8, and 3/4 in. Arbors are available in sizes 1/8 through 1-1/2 in. in steps of 1/16 in. Additional arbors 5/8 in. or less. \$1.50 each
Arbors 5/8 to 1-1/2 in. \$3.25 each
All arbors are 12 in. in length. Longer arbors furnished on special request or can be made in your plant.

Four 1/4 lb. coils of music wire in the following sizes: .028, .048, .067 and .086 in.

Material capacity to .100" wire. Maximum spring diameter . . . 1-1/2 in. Minimum diameter . . . 1/16 in.

Bench space — 23-1/2" x 8-1/2".

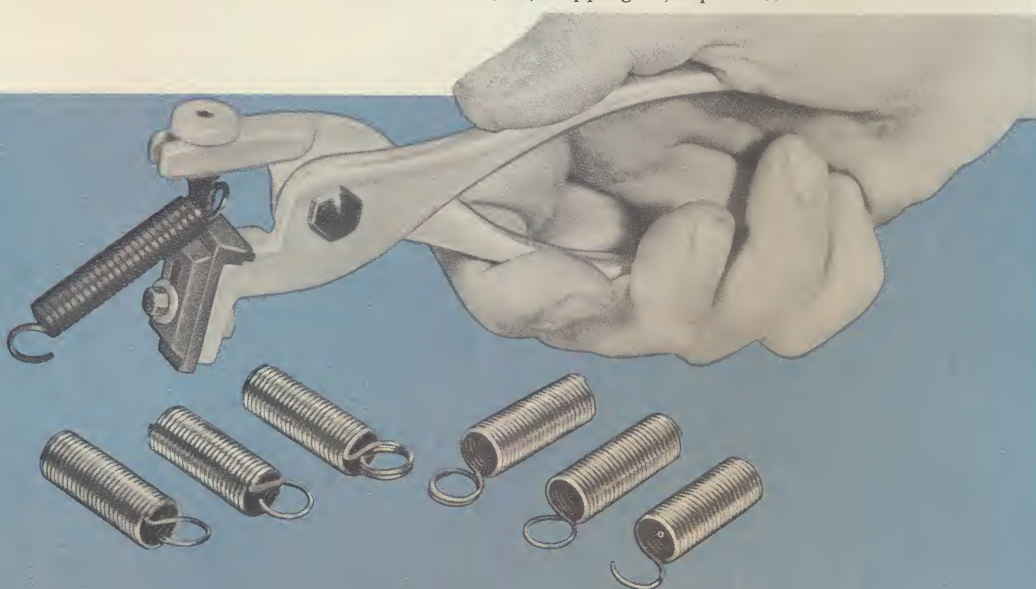
Weight lbs., Net, 30, shipping 37, export 40.

SPRING LOOPING TOOL

Convenient, easy-to-operate hand tool forms perfect loops on ends of coiled wire springs. Springs from 1/8 to 1/2 in. O. D. can be looped from wire up to .062 in. diameter.

Hook-Kon Spring Looping Tool is delivered complete with two interchangeable forming punches. Small punch is for looping wire to .025 in. diameter; large one for wire ranging up to .062 in. diameter. Socket wrench and illustrated instructions included with each looping tool. Weight, oz., Net 4, Shipping 8, Export 9.

. \$22.50



di-acro

PRECISION
BRAKES

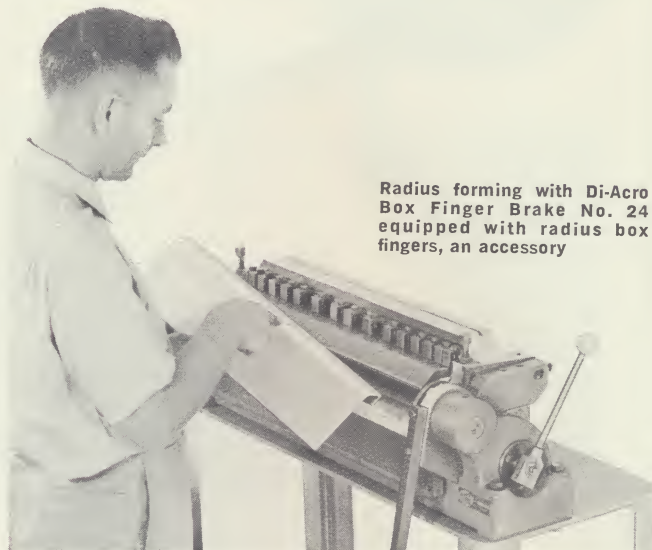


■ LEAF TYPE — HAND OPERATED

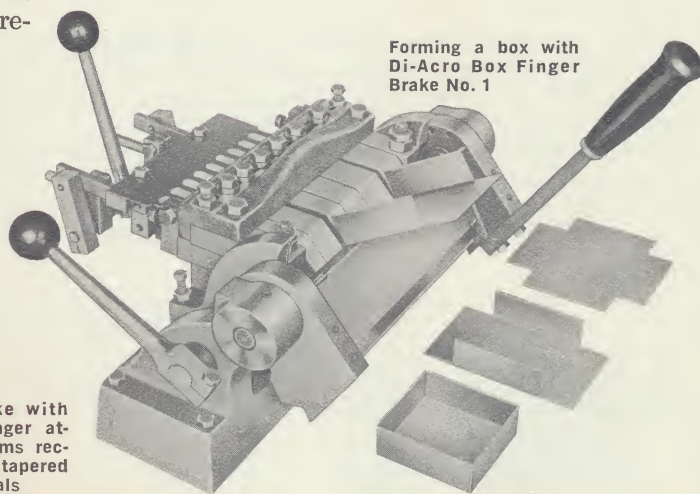
A multitude of forming and duplicating operations can be performed with leaf type Di-Acro Brakes in both experimental and production quantities.

Models 12 and 24 Di-Acro Box Finger Brakes are of identical construction and feature undercut fingers and one inch clearance through top opening. Because of these features, they are particularly useful where boxes, chassis and panels with up to 1/2 inch lip or flange across top or bottom are to be formed. Box finger segments used individually or in combinations allow forming boxes from 3/4 inch to maximum width in any increment of 1/4 inch.

The No. 1 Brake — six inch forming width — does not have the features mentioned in the preceding paragraph but for small part forming it is particularly useful and desirable because of its low initial cost and the ease with which quantities of small parts can be turned out. It takes very little effort to operate. Box finger segments allow forming boxes from 1/2 to 6 inches in any increment of 1/8 inch.



Radius forming with Di-Acro Box Finger Brake No. 24 equipped with radius box fingers, an accessory

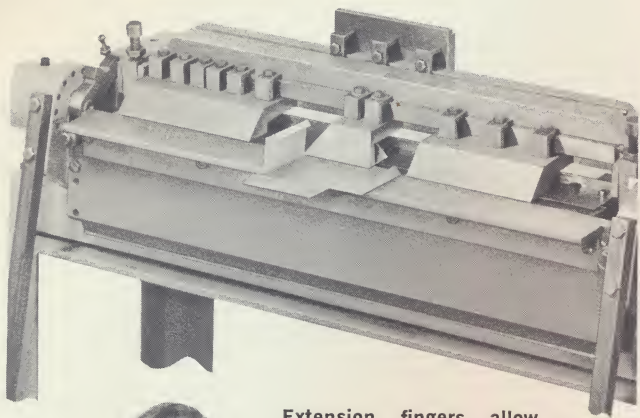


Forming a box with Di-Acro Box Finger Brake No. 1

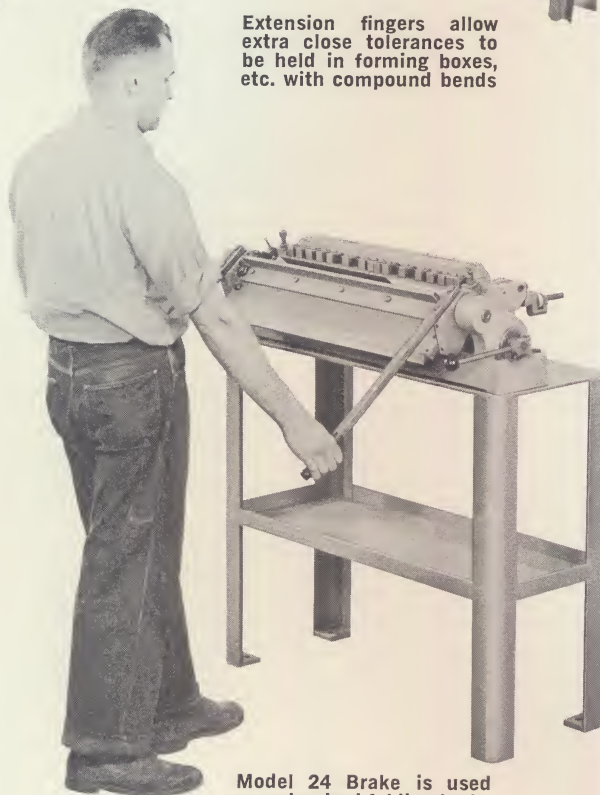
No. 12 Brake with open end finger attachment forms rectangular and tapered shape materials

DI-ACRO BOX FINGER BRAKES

Specifications	No. 1	No. 12	No. 24
Maximum Forming Width.....	6"	12"	24"
Material Capacity — Mild Steel.....	16 ga.	16 ga.	16 ga.
Clearance Through Top Opening.....	1/8"	1"	1"
Undercut Box Fingers (for forming boxes with lipped or flanged edges).....	none	1/2"	1/2"
Maximum Depth of Box or Pan.....	2"	3"	3"
Minimum Reverse Bends.....	1/8"	1/4"	1/4"
Maximum Angle Bend (one operation).....	125°	135°	135°
Back Gauge Adjustment (can be increased).....	12"	12"	12"
Floor Space.....	15" x 14"	24" x 15"	38" x 15"
Weight lbs: Net.....	65	130	300
Shipping.....	70	145	335
Export.....	85	160	350
Cost, Brake with Box Finger Assembly.....	\$165.00	\$275.00	\$425.00
Cost, Brake with Standard Forming Bar.....	135.00	235.00	375.00
Cost, Brake with Acute Angle Bar.....	140.00	240.00	380.00
Stand Cost.....	55.00	60.00	65.00
Stand Weight lbs: Net.....	86	96	114
Shipping.....	89	100	116
Export.....	126	116	139
Standard Forming Bar.....	\$ 25.00	\$ 75.00	\$125.00
Box Finger Bar Assembly (complete).....	55.00	115.00	175.00
Acute Angle Bar — 18 ga. capacity.....	30.00	80.00	130.00
Open End Finger.....	15.00	20.00	27.50
Extension Fingers (pair R and L).....	—	20.00	20.00
Extra Box Fingers			
to 1-1/4" ea.....	all sizes	—	7.00
to 3" ea.....	\$3.50 ea.	7.00	10.00
to 6" ea.....	—	10.00	15.00
Block Mounting Blade.....	—	—	25.00
Radius Box Finger, Complete.....	\$ 10.00	15.00	—
Available in 1/16 or 1/8 inch radii (specify desired radius).....	—	70.00	110.00
Complete set includes 2 — 3/4"; 2 — 1"; 2 — 1-1/4"; 2 — 3".	—	—	—
The complete set listed is for the No. 12 Box Finger Brake.	—	—	—
For No. 24 brake, 2 — 6" additional required.	—	—	—
Extra Radius Box Fingers			
to 1-1/4" ea.....	—	\$ 7.50	\$ 7.50
to 3" ea.....	—	12.50	12.50
to 6" ea.....	—	—	20.00
Radius Extension Fingers (pr., R and L) Specify 1/16" or 1/8" radius.....	—	25.00	25.00
Quik-Set Micrometer Gauge when purchased separately.....	—	40.00	55.00



Extension fingers allow extra close tolerances to be held in forming boxes, etc. with compound bends



Model 24 Brake is used as a standard folding brake with all box fingers in place on mount bar

■ BRAKE ACCESSORIES

Available for No's. 1, 12 and 24 Models

Open End Finger makes it possible to form triangular, square, tapered and rectangular tubes. The formed part is easily slipped off the open end finger. Mounts on finger mount bar when regular box fingers have been removed. Can be set up in minutes.

Replacement Box Fingers are of hardened die steel approximately 30 Rockwell. Specify model No. of Brake on which replacement box fingers are to be used.

Block Mounting Blade is used when tab forming a center section of a part without disturbing the flat material on either side of it.

Standard Forming Bar allows countless simple and reverse bends in all types of ductile material to be formed. Preferable to use when forming heavier gauge material when box or chassis forming is not required.

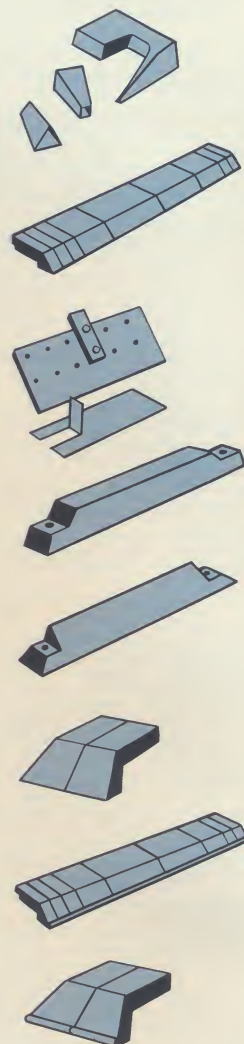
Acute Angle Bar makes it possible to form sharp angles, locks, seams and hems usually made with a bar folder. Maximum angle of bend in one operation with acute angle bar is 150 degrees, maximum capacity 18 gauge mild steel. Others available on quotation.

Available for Nos. 12 and 24 Models only

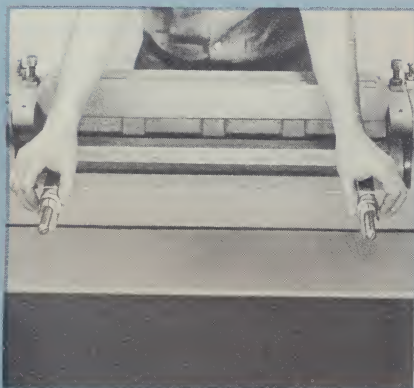
Extension Box Fingers (pair) are used with regular box fingers when it is desirable to form to inside corners of box or chassis with lip across top.

Radius Box Fingers are available in 1/16 or 1/8 inch radii, specify one when ordering. Boxes or panels with radius edges are possible to form with this accessory.

Radius Extension Fingers (pair) perform the same function as regular extension fingers except that they are available with 1/16 or 1/8 inch radii.



Features — Di-Acro Brake Nos. 12 and 24



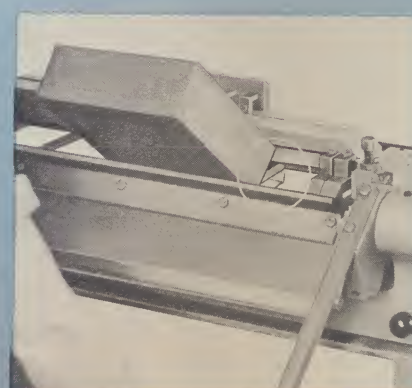
QUICK-SET MICROMETER MATERIAL GAUGE

Quick to adjust and read. One revolution of each micrometer dial moves gauge 1/10 inch. Dial can be disengaged from lead screw for rapid adjustment. Maximum gauge range is 12 inches. Quik-Set gauge is standard on No. 12 and No. 24 model box finger brakes only.



ONE INCH OPENING THROUGH TOP

Clearing material with reverse bends (up to one inch reverse) from front of machine is possible with one inch opening. Sheet can be fed from the front of machine. No bothersome switching material from front to rear feed with attendant gauging problems.



UNDERCUT BOX FINGERS

Box Finger Brakes with undercut Box Fingers and one inch opening through top are especially designed for forming electrical and electronic chassis, cabinets, panels, etc. with up to 1/2" lip across top or bottom.



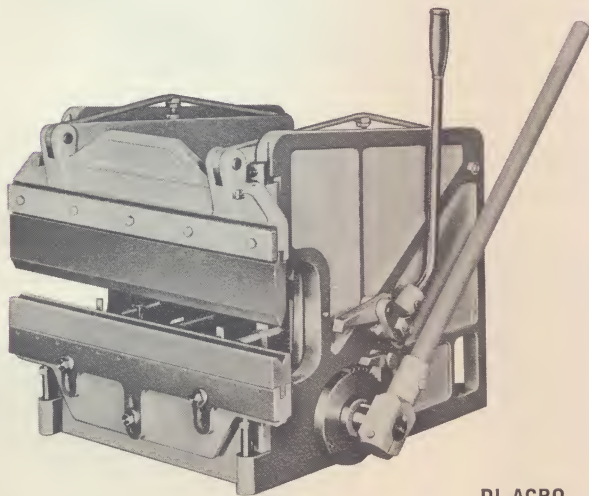
■ HAND OPERATED

8-ton model: Duplicating operations on the Di-Acro Press Brake No. 16-24 are practically unlimited. It has been especially designed for short run jobs that cannot be satisfactorily or economically performed with leaf style folding brakes or other types of metalworking machines. It uses standard Press Brake Dies.

In addition to simple angle and radius bends, this precision machine will perform curling, corrugating, flanging, hemming, seaming, flattening, punching, blanking, drawing, straightening and joggling as well as channel and box forming operations.

Eight tons of power makes it possible to form 16 gauge mild steel over the full 24 in. bed.

A lever operated, roller bearing cam produces ample power for average operations and a ratchet drive greatly multiplies this power when forming heavier materials, thereby providing an extremely wide operating range.



DI-ACRO
PRESS BRAKE
NO. 16-24

Specifications

HAND OPERATED 8-TON MODEL	No. 16-24
Capacity (mild steel on full bed)	16 gauge
Length of bed and ram	24"
Clear distance between housing	14"
Stroke of ram	2"
Bed Adjustment	2"
Shut height (bed down, stroke down)	6"
Depth of gap	6"
Floor Space	26" x 24"
Weight, Lbs. Net, 340; Shipping 406; Export 450	
Cost	\$495.00
Micrometer Back Gauge	\$ 85.00
STAND,	
Weight, Lbs. Net, 110; Shipping 115; Export 135	\$ 65.00

Precision Press Brake Dies are available for use with Di-Acro and all standard brakes (see pages 14-17).

■ HYDRAULICALLY OPERATED

Combination hydraulic mechanical system of Di-Acro Hydra-Power Brakes means complete operator control. Operator can stop, reverse or inch ram at any point during the forming operation. This means production at peak efficiency and safety all day long even with inexperienced help.

Basic source of power is a rotary hydraulic cylinder which is mounted to a shaft mechanically linked to the ram through eccentrics on each end of the shaft. Maintenance is at a minimum. There are no brake bands to wear out or adjust. Stroke and speed control settings are a matter of seconds.

12 ton series: Two sizes used for the high speed production of small precision parts which normally are not economically run on larger press brakes. Has stroke adjustment as described below. Hydraulic operation simplifies set-up and working to a scribed line. Sensitive "inching" is easy — for safety's sake, ram stops as soon as operator lets up on foot pedal. Ram backs off instantly by tripping reverse lever.

17 ton series: A medium sized power press brake that's just the ticket for both high production forming, punching and experimental work. Has stroke adjustment and same basic design and construction features as 25-35 ton series plus front operated micrometer back gauge as standard equipment.

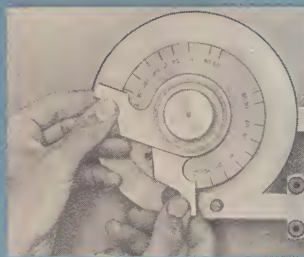
25-35 ton series: Offers peak efficiency and safety on both large and small forming and punching operations. Standard equipment includes both stroke adjustment and dual speed operating cycle. Dual speed operating cycle provides fast approach to the work, slow speed during the work and high speed return. Dangerous whipping of material is eliminated, scrap loss is lowered, production increased.



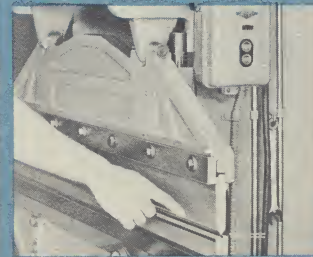
For complete information on Di-Acro Hydra-Power Press Brake write for bulletin — D-TFT 17, 25-35 Ton Series; D-HPPB 12 Ton Series.

Stroke Adjustment Feature

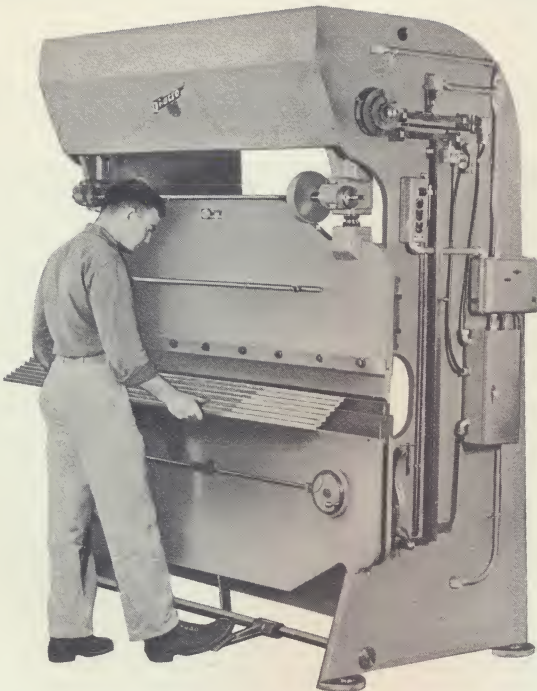
Rotary hydraulic cylinder(s) with single vane oscillating action is mechanically linked to the ram through eccentrics. This unique design speeds operation by eliminating need for the cam shaft to make a 360 degree rotation for each stroke. Maximum rotation is 270 degrees and is used only with maximum length stroke. A shorter stroke requires less rotation. For 1/2 inch stroke, rotation is only 105 degrees. Mechanical stops can be quickly pre-set to stop and reverse ram at desired positions. Shorter strokes mean less ram travel, more strokes per minute, less chance for accident.



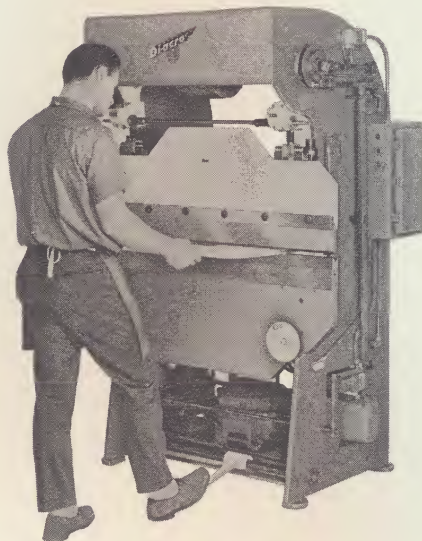
Simple adjustment of the stops on this calibrated dial . . .



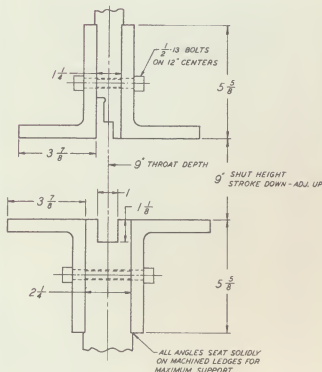
. . . varies the stroke or opening here. Takes less than 15 sec.



DI-ACRO PRESS BRAKE NO. 16-72



DI-ACRO PRESS BRAKE MODEL 14-48-2



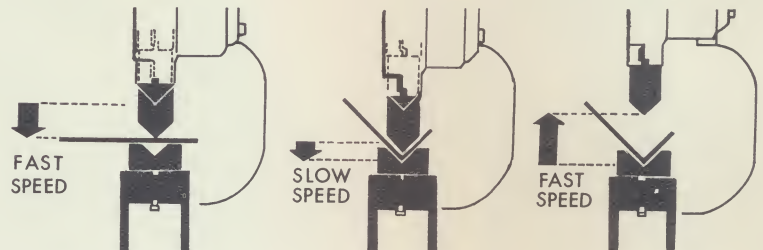
NOTE: Use of angle brackets and bolster requires a machined bed and ram. Cost at right.

■ DUAL SPEED OPERATING CYCLE WITH POWER WORK STROKE

STANDARD ON ALL 25 TON AND 35 TON SERIES BRAKES

- Cuts ram speed as die makes contact with material
- Eliminates whipping and resultant kinking of material
- Makes faster, safer handling of larger sheets possible

Combination of rotary hydraulic cylinders are employed to provide the dual speed cycle. The smaller cylinder brings the ram down to the work at high speed, then the large cylinder(s) are cut into the hydraulic system during the forming part of the stroke.



Ram runs down in fast speed till just above the work

Ram Continues in slow speed to bottom dead center

Ram returns to top of stroke at fast speed

Accessories

	12-Ton Models	17-Ton Models	25-Ton And 35-Ton Models
Micrometer Front Operated Back Gauge (extra when installed instead of standback gauge*)	\$ 95.00		\$200.00
Additional Micrometer Stops (set)		\$ 45.00	\$ 45.00
*Write for special quotation on Micrometer Back Gauge if ordering separately			
Central Lubrication System (one-shot)	\$ 95.00	\$150.00	\$200.00
Let-up Control	\$295.00	\$295.00†	\$295.00
Dual Hand Trip Controls**	\$320.00	\$475.00	\$475.00
Continuous Operating Control**	\$450.00	\$450.00	\$450.00
**When both Dual Hand Trip Controls and Continuous Operating Control are ordered, electro-air controls will be supplied at the following cost			
Power Ram Adjustment	\$650.00	\$650.00	\$650.00
Machined Bed and Ram (inside housings)			\$300.00
Angle Brackets, set of 4 (inside housings)			\$275.00
Bolster — 12", for bed and ram (inside housings)			\$475.00
		See drawing to left	\$350.00

†Let-up Control for Model 14-48-2.....\$345.00

Standard Equipment — 25, 35-Ton Series: Stroke Adjustment, Dual Speed Operating Cycle with Power Stroke, 3 hp motor, all electrical controls (includes step-down transformer which provides 110 V current to all controls for safety), Hydraulic Pump, Ram Adjustment Indicators, Standard Back Gauge with Micrometer Stops, Lower Die Holder and Sectional Ram Clamps.

Standard Equipment — 17-Ton Series: 3 hp motor, optional 220-440 V (specify) AC three phase 60 cycle and all electrical equipment (includes step-down transformer which provides 110 V current to all controls for safety), Die Holder, Micrometer Front Operated Back Gauge with Micrometer Stops. Model 14-48-2 only has dual pump for dual speed operating control.

Specifications

POWER MODELS	12 TON		17 TON	25 TON		35 TON	
MODEL NUMBER	16-36	18-48	14-48-1	16-72	18-96	14-72	16-96
Length of Bed and Ram	36"	48"	48"	72"	96"	72"	96"
Clear Distance Between Housing Capacity (mild steel on full bed)	25"	25"	36-1/4"	62"	62"	62"	62"
Stroke of Ram	16 ga.	18 ga.	16 ga.	16 ga.	18 ga.	14 ga.	16 ga.
Bed Adjustment	1-1/2"	1-1/2"	2"	2"	2"	2"	2"
Shut Height — Bed Down, Stroke Down	2"	2"	—	—	—	—	—
Ram Adjustment	7-1/2"	7-1/2"	—	—	—	—	—
Shut Height — Ram Up, Stroke Down	—	—	2"	3"	3"	3"	3"
Throat Clearance From Center of Dies	—	—	9"	9"	9"	9"	9"
Horsepower	6-1/2"	6-1/2"	6"	9"	9"	9"	9"
Frame Plates	3	3	3	3	3	3	3
Bed Plates	3/4"	3/4"	3/4"	1"	1"	1"	1"
Ram Plate	—	—	1-1/2"	3/4"	3/4"	3/4"	3/4"
Floor Space	—	—	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"
Height	28"x36"	28"x48"	30"x52"	44-1/2"x72"	44-1/2"x96"	44-1/2"x72"	44-1/2"x96"
Weight lbs., Net	65"	65"	75"	92"	92"	92"	92"
Shipping	1450	1550	2245	5000	5300	5250	5550
Export	1500	1600	2295	5200	5500	5450	5750
Cost	2100	1900	2745	5300	5600	5550	5850
	\$1795	\$1995	\$2450*	\$3850	\$4250	\$4550.00	\$4950.00

*Note — 17-Ton Model 14-48-2 same as above but with dual pump for dual speed operating control....\$2950.00

Standard Equipment — 12 ton series: 3 hp motor, optional 220-440 volt (specify which) A.C. three phase 60 cycle and all electrical equipment (special wiring and motors quoted on request). Adjustable back gauge that accurately adjusts both vertically and horizontally. Die Holder included. Dies extra (see pages 14 - 17).

Step Down Transformer for 110 V controls, 12-Ton.....\$75.00

■ LET UP CONTROL

- An accessory for all Di-Acro Power Press Brakes
- Provides dual speed cycle

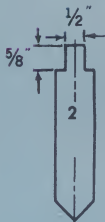
Let Up Control consists of an adjustable mechanical stop with a flow control valve which can be regulated to decrease speed of ram when top forming die contacts material. Available for 25, 35-Ton Series Press Brakes but recommended only where forming speed must be extremely slow.

di-acro

PRECISION
PRESS BRAKE
DIES

STANDARD V-TYPE PRESS BRAKE DIES

■ 90° forming punches and dies for 26 to 11 gauge mild steel



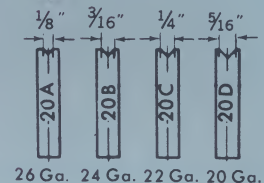
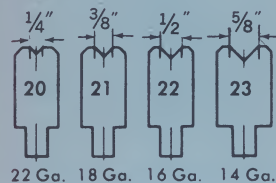
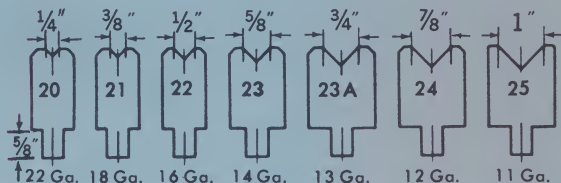
For forming 90° bends, the number 2 punch and the dies shown below are the most commonly used. Adjustment of press brake ram or bed controls degree of angle. Forming bends greater than 90° is practical by air forming. For this purpose ram (or bed) is adjusted to limit depth of ram entry into die.



Indented sides on No. 1 punch allows closer back gauge clearance and longer return than the No. 2 punch. The load is then on the punch shoulders instead of the ram slot.



For low cost, light gauge sheet metal forming, the No. 1A punch and its die combination is recommended, especially for short flange work.



■ Fit ALL Press Brakes ■ Immediate Delivery

Here's a group of economically produced, standard V-type press brake dies that can be applied to the majority of job requirements.

■ You Save When You Buy Standard Cataloged Dies

Immediate delivery cuts tooling time. Standard dies can be produced in quantity, at a real saving in cost. And the wide variety of bending operations to which they are adaptable makes them especially economical to use.

■ Quality Finish

Skilled workmen and modern machinery assure you of a fine finish on every die. Finely finished work surfaces reduce friction and wear, keep work marking to a minimum.

■ Hardness

Di-Acro standard dies are available in quality heat treated alloy brake die steel, with good tensile strength and uniform hardness throughout. High tensile and yield strengths make Di-Acro standard press brake die steel well suited to work where a limited cross-section or area of the die is used. Die tends to get harder with use. Hardness is Rockwell C25-28.

■ Special Dies

Di-Acro standard V-type press brake dies are easily modified to meet special requirements using standard punches and dies, however when complete special dies are needed Di-Acro manufacturing facilities are geared to produce them at low cost. Send drawings or parts you wish to produce to our Engineering department for quotations.

■ Ordering Information

The size opening in the lower die determines the inside radius of the bend. The recommended opening is eight times the stock thickness and this will provide an inside radius equal to approximately 5/32 of the die opening. This is generally just short of the fracture point of most materials.

By increasing the size of the die opening the pressure required to make the bend is considerably reduced while the inside radius is proportionately increased.

Before ordering, check die drawings above which list recommended openings for various material gauges. Give number of upper and lower die as well as length desired when ordering.

■ Dimensions of all tongues on upper and lower dies are 1/2 inch wide by 5/8 inch high

DIE LENGTH (inches)

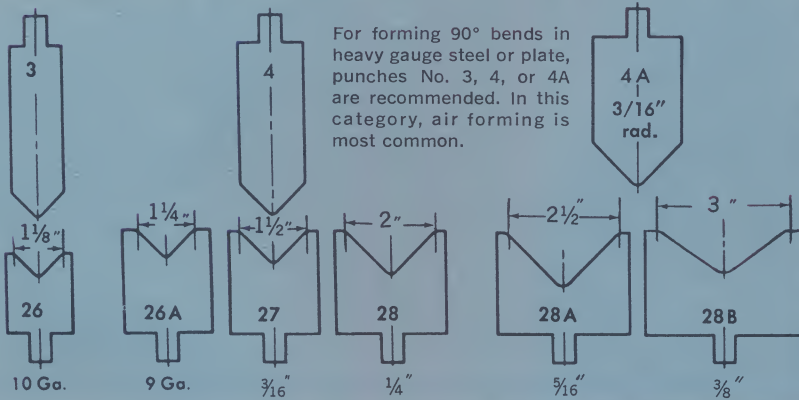
DIE NO.	6"	12"	18"	25"	37"	50"	62"	74"	99"	126"	150"
UPPER PRESS BRAKE DIES											
1	\$13.00	\$24.00	\$35.00	\$44.00	\$55.00	\$66.00	\$75.00	\$83.00	\$101.00	\$120.00	\$135.00
1A	10.00	18.00	25.00	30.00	39.00	46.00	53.00	58.00	71.00	86.00	95.00
2	11.00	20.00	29.00	36.00	45.00	53.00	60.00	67.00	81.00	98.00	110.00
3	12.00	23.00	34.00	42.00	53.00	63.00	71.00	79.00	96.00	115.00	128.00
4	14.00	26.00	38.00	47.00	58.00	68.00	77.00	86.00	104.00	124.00	139.00
4A	18.00	32.00	44.00	68.00	70.00	84.00	96.00	106.00	127.00	151.00	170.00
5	12.00	23.00	34.00	42.00	53.00	64.00	72.00	80.00	97.00	117.00	130.00
6	15.00	27.00	39.00	49.00	60.00	71.00	81.00	90.00	108.00	129.00	145.00
7 & 7A	19.00	36.00	53.00	67.00	75.00	82.00	93.00	103.00	124.00	147.00	166.00
7B	20.00	39.00	56.00	71.00	80.00	87.00	99.00	110.00	132.00	157.00	176.00
8	12.00	22.00	32.00	40.00	50.00	60.00	68.00	75.00	90.00	108.00	120.00
8A	14.00	26.00	38.00	48.00	60.00	73.00	83.00	91.00	110.00	130.00	145.00
9A to 9H	23.00	45.00	66.00	82.00	92.00	100.00	115.00	128.00	154.00	185.00	205.00
9K to 9S	20.00	40.00	58.00	72.00	81.00	88.00	101.00	112.00	135.00	162.00	180.00
10	16.00	30.00	40.00	52.00	63.00	74.00	84.00	93.00	112.00	133.00	150.00
11 & 12	17.00	31.00	43.00	54.00	66.00	77.00	87.00	96.00	115.00	137.00	155.00
12A	22.00	43.00	62.00	77.00	88.00	96.00	109.00	121.00	145.00	173.00	195.00
12B	24.00	47.00	69.00	92.00	99.00	106.00	120.00	135.00	164.00	196.00	215.00
12C	32.00	63.00	92.00	119.00	130.00	144.00	161.00	180.00	218.00	261.00	288.00
13	30.00	58.00	86.00	112.00	124.00	135.00	153.00	170.00	206.00	245.00	270.00
14A	11.00	20.00	29.00	36.00	45.00	53.00	60.00	67.00	81.00	98.00	110.00
14B	12.00	23.00	34.00	42.00	52.00	62.00	70.00	78.00	94.00	113.00	126.00
14C	19.00	38.00	55.00	68.00	77.00	84.00	96.00	106.00	127.00	151.00	170.00
15	18.00	37.00	53.00	67.00	75.00	81.00	93.00	103.00	124.00	147.00	166.00
15A	22.00	43.00	62.00	77.00	88.00	96.00	109.00	121.00	145.00	173.00	195.00
16	17.00	30.00	43.00	54.00	66.00	77.00	87.00	96.00	115.00	136.00	154.00
17 to 19B	13.00	25.00	37.00	49.00	53.00	57.00	65.00	72.00	87.00	105.00	115.00
19C	17.00	31.00	45.00	59.00	65.00	70.00	80.00	88.00	106.00	127.00	140.00
19D	20.00	36.00	53.00	70.00	78.00	84.00	95.00	104.00	126.00	150.00	165.00
19E & 19F	21.00	39.00	56.00	77.00	84.00	90.00	101.00	111.00	133.00	160.00	175.00
LOWER PRESS BRAKE DIES											
20	\$11.00	\$20.00	\$29.00	\$36.00	\$45.00	\$53.00	\$60.00	\$67.00	\$81.00	\$98.00	\$110.00
20A to 20D	9.00	16.00	22.00	28.00	35.00	41.00	47.00	52.00	64.00	77.00	85.00
21 & 22	11.00	20.00	29.00	36.00	45.00	53.00	60.00	67.00	81.00	98.00	110.00
23	12.00	21.00	30.00	38.00	48.00	57.00	65.00	72.00	87.00	105.00	116.00
23A & 24	12.00	22.00	32.00	40.00	50.00	60.00	68.00	76.00	91.00	110.00	122.00
25 & 26	13.00	24.00	35.00	44.00	55.00	66.00	74.00	82.00	102.00	120.00	134.00
26A & 27	18.00	33.00	48.00	62.00	72.00	82.00	93.00	103.00	124.00	147.00	166.00
28	20.00	38.00	56.00	70.00	78.00	86.00	97.00	108.00	130.00	155.00	174.00
28A	29.00	55.00	79.00	103.00	114.00	124.00	141.00	155.00	186.00	225.00	248.00
28B	38.00	72.00	104.00	139.00	153.00	165.00	186.00	206.00	248.00	297.00	326.00
29 to 30	12.00	23.00	34.00	42.00	52.00	62.00	70.00	78.00	94.00	113.00	126.00
31	14.00	26.00	38.00	47.00	58.00	69.00	78.00	87.00	105.00	125.00	140.00
32	19.00	36.00	53.00	67.00	75.00	83.00	94.00	104.00	125.00	149.00	168.00
32A	23.00	42.00	61.00	76.00	87.00	94.00	108.00	118.00	142.00	170.00	190.00
32B	28.00	53.00	77.00	99.00	110.00	119.00	136.00	149.00	180.00	217.00	240.00
32C	36.00	68.00	98.00	130.00	142.00	152.00	172.00	190.00	229.00	277.00	305.00
33A	11.00	20.00	29.00	36.00	45.00	53.00	60.00	67.00	81.00	98.00	110.00
33B	12.00	23.00	34.00	42.00	52.00	62.00	70.00	78.00	94.00	113.00	126.00
33C	19.00	38.00	55.00	68.00	77.00	84.00	96.00	106.00	127.00	151.00	170.00
34	18.00	37.00	53.00	67.00	75.00	81.00	93.00	103.00	124.00	147.00	166.00
34A	22.00	43.00	62.00	77.00	88.00	96.00	109.00	121.00	145.00	173.00	195.00
35	14.00	26.00	38.00	47.00	58.00	69.00	78.00	87.00	105.00	125.00	140.00
36 to 38B	13.00	25.00	37.00	49.00	53.00	57.00	65.00	72.00	87.00	105.00	115.00
38C	17.00	31.00	45.00	59.00	65.00	70.00	80.00	88.00	106.00	127.00	140.00
38D	20.00	36.00	53.00	70.00	78.00	84.00	95.00	104.00	126.00	150.00	165.00
38E & 38F	21.00	39.00	56.00	77.00	84.00	90.00	101.00	111.00	133.00	160.00	175.00
50	22.00	44.00	64.00	80.00	90.00	98.00	112.00	125.00	151.00	181.00	200.00
51	18.00	35.00	51.00	64.00	72.00	79.00	90.00	99.00	120.00	144.00	160.00

MALE DIE EXTENSION NO. 52

Length	6"	12"	18"	25"	37"	50"	62"	74"	99"	126"	150"
Cost	\$14.00	\$26.00	\$38.00	\$47.00	\$58.00	\$68.00	\$77.00	\$86.00	\$104.00	\$124.00	\$139.00

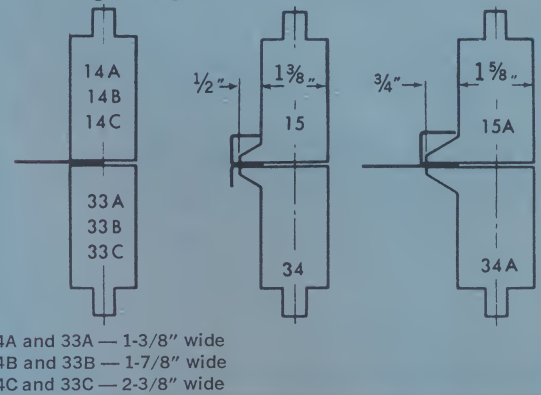
Working shut height of the average die set is 5¼ inches — can be used with any standard press brake employing a die holder and bed or ram adjustment

■ 90° forming punches and dies for 10 gauge to 3/8 in. mild steel



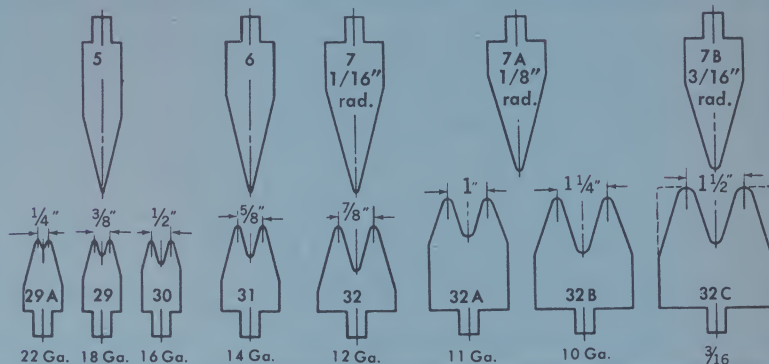
■ flattening dies

Used to complete a hem, or to close previously formed acute angle to a given degree of opening.

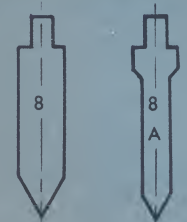


■ 30° forming punches and dies 22 gauge to 3/16 in. mild steel

Acute dies, used for air form bends from 30° to shallow, and as a first operation set in hemming, have universal application. The depth to which punch enters die opening determines angle formed. Furnished with flat top or tapered sides. Specify if tapered sides are required.



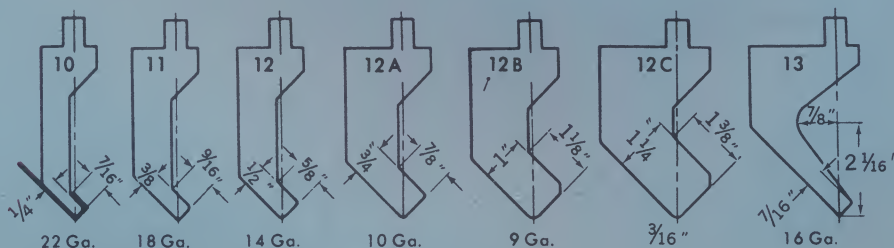
■ 60° forming punches



These punches are commonly used where it is desirable to overbend material to compensate for springback. For this reason, these dies are recommended for use with Rol-Form Dies shown on pages 16-17.

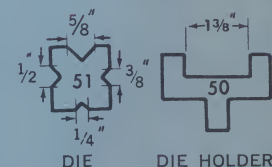
■ 90° gooseneck dies for return bends

For channel forming or for making special shapes where straight 90° punch would interfere. Dimensions shown for face width and length of return flange. Greater cutback beyond center line increases length of return flange but reduces work capacity of punch. Taper on inside of gooseneck requires wider channel to take advantage of sweepback.



■ 4 Way Die and Holder

For 22 Gauge to 14 Gauge Mild Steel



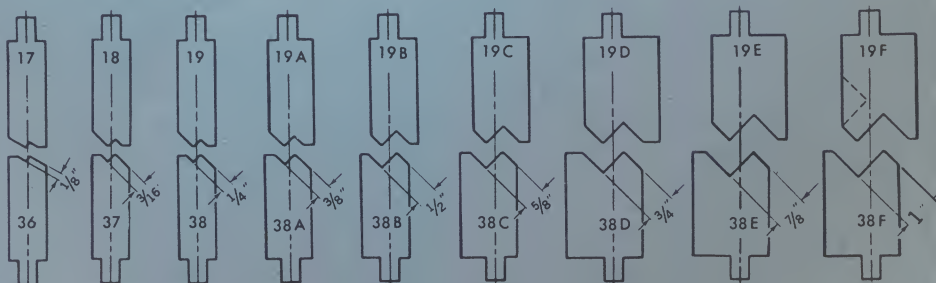
Multiple groove dies are useful where frequent changes in the openings are required. Can be indexed to provide different openings. Holder provides bed support.

■ 60° radius forming punches

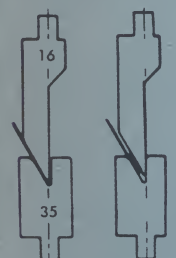
- 9A — 1/32" rad.
- 9B — 1/16" rad.
- 9C — 3/32" rad.
- 9D — 1/8" rad.
- 9E — 5/32" rad.
- 9F — 3/16" rad.
- 9G — 7/32" rad.
- 9H — 1/4" rad.
- 9K — 5/16" rad.
- 9M — 3/8" rad.
- 9P — 7/16" rad.
- 9S — 1/2" rad.

■ offset dies

Form two 90° bends at single stroke. Indicated dimensions show amount of offset from inside to outside of metal thickness. Suitable for mild steel to 18 gauge. Forming of other metals and heavier gauges of mild steel depends on amount of offset and press brake capacity available.



■ hemming die set



Hems can be made in two strokes in mild steel, 18 gauge or lighter.

■ **Rol-Form Dies cut sheet forming costs in press brakes and punch presses**

Rol-Form Dies can be used in all sizes of press brakes and punch presses, both hydraulically and mechanically operated. Universal application of the die makes special presses or equipment unnecessary.

Polished aluminum, painted or plated metals and stainless steel are some of the materials which can now be safely formed without marking, scratching or flaking. Work marking of material can be greatly minimized and in many cases eliminated with a Di-Acro Rol-Form Die.

■ **How the Rol-Form Die Works**

Hardened and precision ground rolls pivot smoothly in the die block to fold material gently without strain or impact. Because material is not forced over sharp edges, friction between material and die surfaces is reduced. The resultant reduction of strain in material makes this method of forming ideal when producing components for the aircraft-missile industry. Where ultra-high finish material is to be formed, nylon inserts may be used in the die block to further reduce the possibility of work marking. Nylon inserts supplied on request at same cost as metal inserts.

■ **Advantages of Rol-Form Dies**

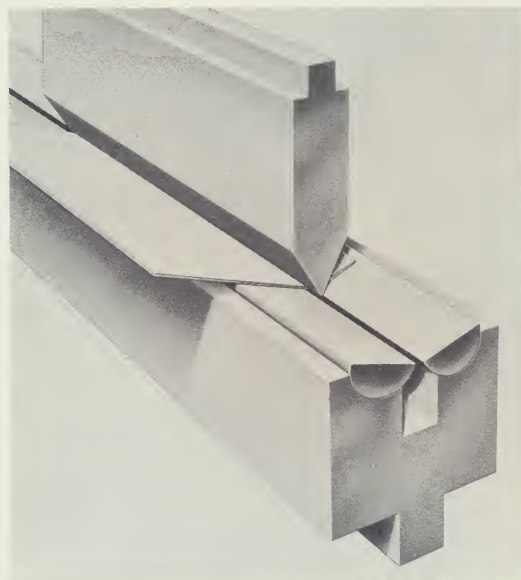
- The gentle folding action of hardened, precision ground rolls eliminates work marking. You discard elaborate, time-consuming preparation and work methods — end masking, stripping, and costly liner material. Sanding and polishing become unnecessary; material can be polished before forming, if required.
- Flanges can be formed nearer pierced holes than with ordinary V-dies, because there is less pull or distortion of material.
- A Rol-Form Die forms varying radii when used with male dies having different radii. Special female radius dies are often times not needed.
- There's less metal fatigue. The bend is rolled smoothly into the material without impact. You eliminate rejects and scrap parts.
- One Style E Rol-Form Die and a 60° angle male die combination accurately form material thicknesses from .005 to 3/8 in. Several sets of V-dies would ordinarily be required for this range of thicknesses.
- No need to change the die for each new material thickness. You save by cutting the number of times it would be necessary to set up and change over dies. On longer length, heavier dies, this time saving is important.
- Forms any angle to 60° because of the pivot action of the two rolls in the die block. You save on hand forming or purchase of additional dies.



SNAP FORM DIES

Forms radius bends from 0 to 3/8" simply by changing the insert on die. Interchangeable radius inserts furnished include one insert that can be indexed to provide radii of 0, 1/32, 1/16 and 3/32". Nine other inserts provide one radius each.

For More Information Write for Bulletin D-PBDF



**ONE ROL-FORM DIE . . .
FORMS ANY ANGLE TO 60 DEGREES**



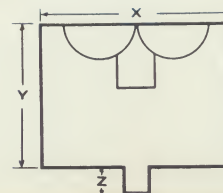
FORMS RANGE OF MATERIAL THICKNESSES



FORMS RANGE OF RADII



Die Style	X	Y	Z
A	3/4"	1 3/4"	5/8"
B	1 1/4"	1 3/4"	5/8"
C	1 3/4"	1 3/4"	5/8"
D	2 1/2"	1 3/4"	5/8"
E	4"	3"	5/8"



ROL-FORM* DIE STYLE	Material Thickness Range (in.)	DIE LENGTH (inches)											
		6	12	18	25	37	50	62	74	87	99	126	146
A - 1/4" rolls	.005 to 1/16	\$ 65.00	\$ 90.00	\$115.00	\$140.00								
B - 1/2" rolls	.005 to 1/8	70.00	95.00	120.00	145.00	\$190.00	\$235.00	\$280.00	\$325.00	\$370.00	\$415.00	\$505.00	\$595.00
C - 3/4" rolls	.005 to 3/16	75.00	100.00	125.00	150.00	200.00	250.00	300.00	350.00	400.00	450.00	550.00	650.00
D - 1" rolls	.005 to 1/4	85.00	110.00	135.00	160.00	215.00	270.00	325.00	380.00	435.00	490.00	600.00	710.00
E - 1 1/2" rolls	.005 to 3/8	100.00	125.00	150.00	175.00	240.00	305.00	370.00	435.00	500.00	565.00	695.00	825.00
Snap-Form Die No. 0		35.00	49.00	71.00	88.00	114.00	140.00	154.00	168.00	194.00	208.00	250.00	294.00

*On lengths longer than 12 inches two spring clip returns are supplied — one at each end of the die to insure proper return of the half round inserts.

REPLACEABLE INSERTS FOR ROL-FORM DIES

Should the roll inserts wear out or be damaged, replacement metal inserts or nylon inserts may be purchased at 1/2 of the cost of a new die section of comparable length. To form heavier materials and obtain larger radius bends, larger Rol-Form Dies can be supplied on quotation.

RECOMMENDATION

Use of a No. 8 top die (with 60° angle) or a Snap-Form die is often recommended where sharper inside radii are to be formed when air bending as they allow overbending material to compensate for springback.

di-acro

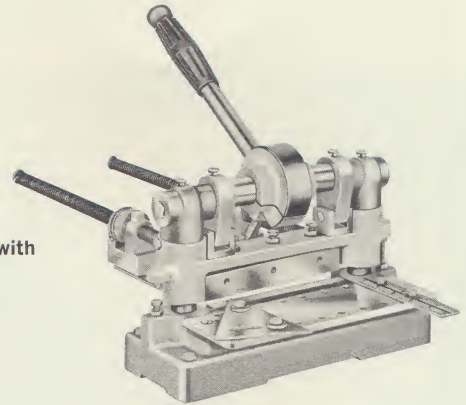
PRECISION
SHEARS



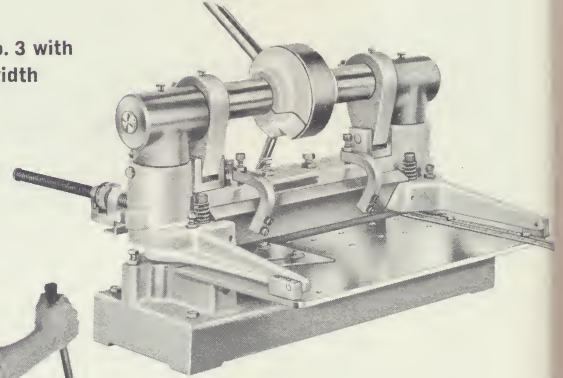
■ HAND OPERATED

Shearing to die-accuracy standards is possible with easy to operate Di-Acro Shears. Ideal for experimental and short run production operations. Cutting speeds with these Precision Machines often rivals that of larger power-shears, making them ideal for production operations in all shearable materials including plastic, fiber, mica, leather, rubber, aluminum, copper, cobalt steel, chrome molybdenum, leaded brass and stainless steel. Compact, easily and safely operated by women, Di-Acro Shears are produced from alloy castings and cold rolled steel bars. Cutting blades are made from alloy steel, properly hardened and precision ground. Standard equipment includes Quick-set Micrometer Gauges on all models, Material Hold-down Bar on Models 3 and 4.

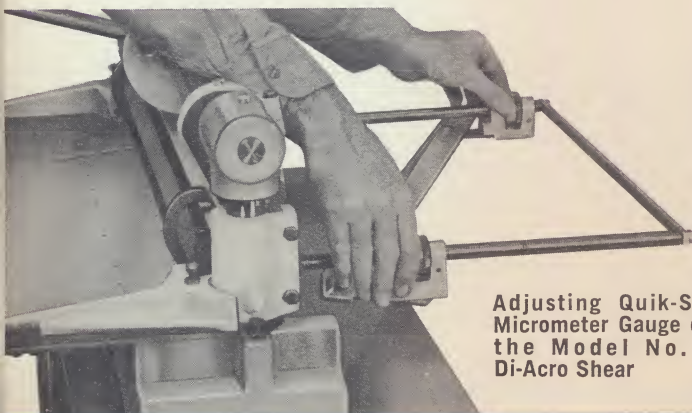
Di-Acro Shear No. 1 with
6 in. shearing width



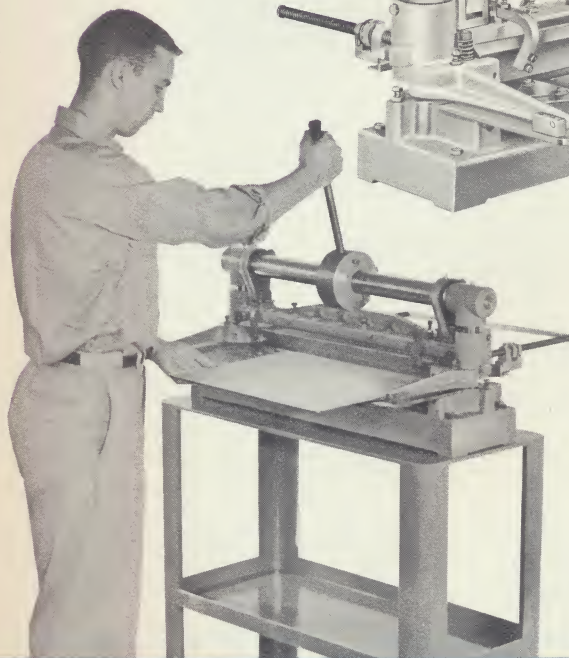
Di-Acro Shear No. 3 with
12 in. shearing width



Di-Acro Shear No.
4 with 24 in. shear-
ing width cuts
sheet stock at high
speed



Adjusting Quik-Set
Micrometer Gauge on
the Model No. 4
Di-Acro Shear



Specifications

	No. 1	No. 3	No. 4
Maximum shearing width	6"	12"	24"
Material capacity, mild steel	16 ga.	16 ga.	16 ga.
Range of Back Gauge	12"	12"	12"
Floor space required (on stands)	15" x 18½"	25" x 24"	20" x 38"
Weight lbs., Net	35	135	260
Shipping	40	145	300
Export	50	165	340
Cost	\$160.00	\$345.00	\$465.00
SHEAR BLADES ONLY			
Alloy Tool Steel (per set)	\$ 13.00	\$ 25.00	\$ 40.00
Hi-Carbon - Hi-Chrome (per set)	\$ 25.00	\$ 45.00	\$ 75.00
ADDITIONAL EXTRA when Hi-Carbon - Hi-Chrome blades are installed in place of Alloy Steel blades	\$ 12.00	\$ 20.00	\$ 35.00
STANDS, 33" height			
Weight lbs., Net	86	96	108
Shipping	98	100	112
Export	70	135	148
Cost	\$55.00	\$60.00	\$65.00

STANDARD EQUIPMENT SHEARS NO. 1 - 3 - 4

Material Hold Down Bar —
Models No. 3 - 4 only

Side Squaring Gauge

Reversible Protractor Gauge

Set of Four-edged Alloy Tool Steel Blades —
Model No. 1 — Two-edged Blades

Micrometer Back Gauge

Long and Short Operating Handles —
Model No. 1 — short only

Blade Stop for slitting operations

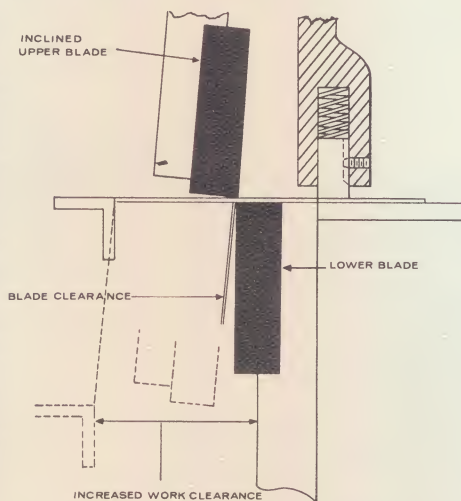
■ HAND AND FOOT OPERATED

MODEL NO. 36 HAND SHEAR features Combination Eccentric Leverage Operation which provides much greater mechanical advantage and shearing pressure than is possible with a shear operated by leverage only. Valuable features include Inclined Ram, Roller Bearings, Bed Adjusted Lower Blade, Blade Straightener and Operating Handle for right and left side mounting and Quick-Set Micrometer Back Gauge, illustrated on page 18, and Material Hold Down Bar.

MODEL NO. 36K is a foot operated shear having an Adjustable Treadle enabling the operator to set mechanical advantage at 6, 7 or 8 to 1. When cutting heavier materials, the 8 to 1 ratio reduces shearing effort while on lighter materials the lesser ratios shorten the treadle travel. Minimum deflection is assured by all steel plate construction. Features include Inclined Ram, Hardened and Ground Guides, Non-Galling, Non-Metallic Slides, Bed Adjusted Lower Blade and Blade Straightener, and rugged Precision Back Gauge with easy reading scale and Material Hold Down Bar.

INCLINED RAM OFFERS THESE ADVANTAGES:

1. Shear blades are set at an angle to work so that only the blade edge is in contact with the material — beveled effect tends to reduce shearing force or pressure. Inclined ram approach helps counteract thrust, keeps blade straight. Net result — die accuracy in shearing.
2. Shear blades with straight sides and four shearing surfaces are securely bolted to inclined ram. Straight sided blades are easy to grind. There is no undercut on blade to catch or trap narrow strips of material.
3. Material does not bind between back gauge and lower blade because ram w/back gauge attached moves down & away during stroke.
4. Ram eccentrics are mounted back from center line to hold ram against ram guides. A downward and backward pull keeps the ram housing against the guides and allows an extremely close blade clearance.



Di-Acro Shear No. 36 is underdriven hand operated Shear with 36 in. shearing width



Di-Acro Shear No. 36K with 37 3/4 in. shearing width



Specifications

	No. 36	No. 36K
Maximum shearing width	36"	37 3/4"
Material capacity, mild steel	16 ga.	16 ga.
Range of Back Gauge	25"	25"
Floor space required (on stands)	20"x48"	44-1/2"x76"*
Weight lbs., Net	360	705
Shipping	400	815
Export	420	950
Cost	\$575.00	\$695.00
Micrometer Back Gauge	—	\$80.00
*Includes front and rear gauges		
SHEAR BLADES ONLY		
Alloy Tool Steel (per set)	\$ 55.00	\$ 55.00
Hi-Carbon - Hi-Chrome (per set)	\$105.00	\$105.00
ADDITIONAL EXTRA when Hi-Carbon Hi-Chrome blades are installed in place of Alloy Steel blades	\$ 50.00	\$ 50.00
STANDS, 33" height		
Weight lbs., Net	165	—
Shipping	171	—
Export	190	—
Cost	\$ 70.00	—
EXTENSION SQUARING ARM		
for right or left side†		
6 ft. length	—	\$225.00
8 ft. length	—	\$275.00
Disappearing Stops (each)	\$5.00	\$5.00
Extra Swing Stops for Extension		
Squaring Arm — each	—	\$ 15.00
†Two swing stops are included as standard equipment with each Extension Squaring Arm.		

STANDARD EQUIPMENT SHEARS NO. 36-36K

Material Hold Down Bar
 Side Squaring Gauge
 Reversible Protractor Gauge
 Set of Four-edged Alloy Tool Steel Blades
 Material Back Gauge, 25"
 Blade Stop for slitting operations
 Front Material Gauge — Model No. 36K only
 Front Gauge Extension

■ Di-Acro Power Shear No. 24

Standard and Vari-O-Speed Models

The 24" Di-Acro Power Shear offers a new concept in high speed production. Simple in design, easy to operate — ideal for inexperienced or women operators. Regardless of larger capacity shears now in use the Model 24 makes a valuable addition because its compact size, high speed and accuracy enables large scale production shearing of the smaller parts and pieces. Construction features include rugged welded steel cabinet with recessed front for pedal guard. Shear base and ram of alloy castings. A spring charged Material Hold-down Bar, and Micrometer Operated Back Gauge is standard equipment. Gravity Chute at rear of machine delivers sheared material into receptacle.

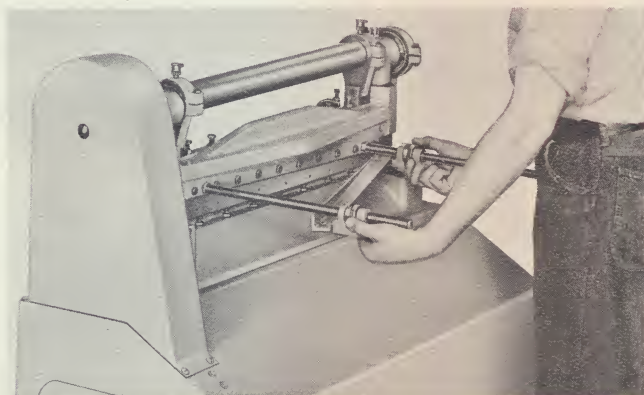
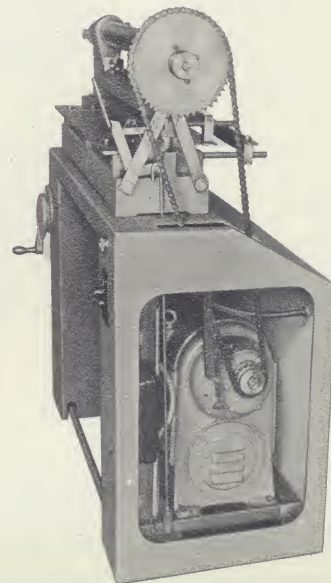
Model 24 Vari-O-Speed provides a range of cutting speeds from 40 to 200 or 30 to 150 strokes per minute at full power. Machine can be set for single or continuous operation. Non-repeating safety clutch allows single stroke shearing at any blade speed desired within the range of the machine.

Model 24 Standard Power Shear can be set for single or continuous operation speed to 90 strokes per minute. Each shearing cycle is instantly obtained by engaging a non-repeating safety clutch through either the hand lever or foot pedal. This standard model is recommended where a wide range of shearing speeds is not desired.

Vari-O-Speed Power shear No. 24 has an adjustable speed control



All moving parts are easy to reach making maintenance simple



Standard equipment includes micrometer back gauge graduated in .001"

FOR ADDITIONAL INFORMATION ON DI-ACRO SHEARS WRITE FOR FREE FOLDER

MICROMETER BACK GAUGE

Quik-Set Micrometer Back Gauge enables speed and accuracy when changing from one setting to another. Gauge is graduated in .001". One complete turn of the micrometer dial moves the gauge 1/10 of an inch. Gauge can be quickly moved from setting to another by depressing spring loaded micrometer dial and sliding gauge on threaded rod.

NO. 24 STANDARD EQUIPMENT

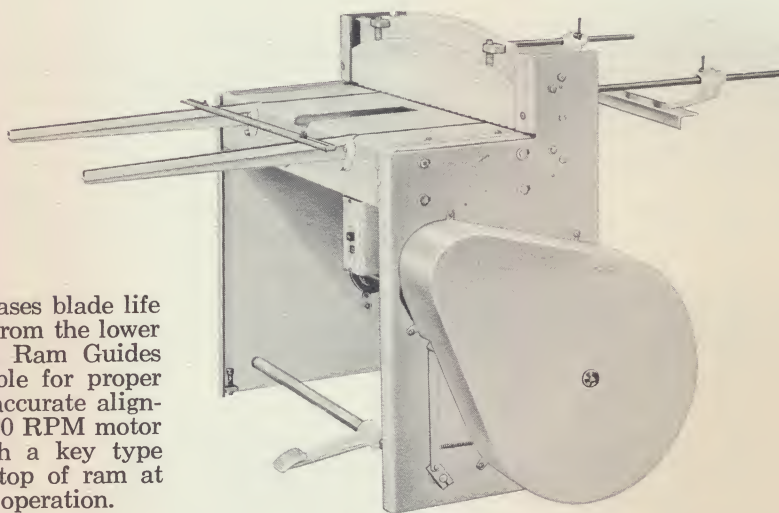
All Electrical Equipment
Material Hold Down Bar
Side Squaring Gauge
Reversible Protractor Gauge
Set of Four-edged Alloy Tool Steel Blades
Micrometer Back Gauge

Specifications	Vari-O-Speed No. 24	Standard No. 24
Capacity: mild steel	16 gauge	16 gauge
stainless steel	18 gauge	18 gauge
aluminum (approx. half hard)	1/8"	1/8"
Blade length	24-1/8"	24-1/8"
Blade size	1/2" x 1-1/4"	1/2" x 1-1/4"
Blade rake	Adjustable 3/8" - 7/16"	Adjustable 3/8" - 7/16"
Cutting speed — continuous	30-150, 40-200 specify one	90
single stroke	2/3 of above	2/3 of above
Motor	1/2 hp 110-220 volt A.C. single phase or 220-440 volt A.C. 3 phase 1200 rpm U.S. Varidrive	3/4 hp gear type 110-220 volt A.C. single phase or 220-440 volt A.C. 3 phase U.S. Synchro gear
Back gauge range	12-3/4"	12-3/4"
Front gauge range	—	—
Overall width	40"	40"
Overall depth	18-1/2"	18-1/2"
Overall depth with rear gauge	27"	27"
Overall depth with front gauge	—	—
Weight lbs., Net	735	640
Shipping	775	680
Export	875	780
Cost	\$1,450.00	\$1,250.00
SHEAR BLADES ONLY		
Alloy Tool Steel (per set)	\$40.00	\$40.00
Hi-Carbon-Hi-Chrome (per set)	\$75.00	\$75.00
ADDITIONAL EXTRA when Hi-Carbon-Hi-Chrome blades are installed in place of Alloy Steel blades	\$35.00	\$35.00

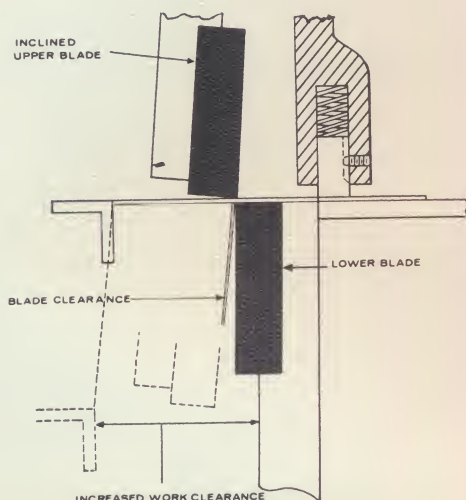
■ LOWEST COST HIGH SPEED, PRECISION SHEAR ON THE MARKET-ONLY \$1,350 COMPLETE

■ Di-Acro Power Shear No. 36P

The lowest cost production shear on the market. A high speed precision shear designed primarily for the shearing of intermediate sizes of light gauge sheets. This shear is ideal for the production cutting of a wide range of materials as heavy as 16 gauge mild steel and up to 36 inches in width. It is ruggedly constructed of steel plate and alloy castings to maintain shearing accuracy under constant daily use. A valuable feature is the Inclined Ram which reduces shearing force and increases blade life by moving the upper blade down and away from the lower blade when cutting. Hardened and ground Ram Guides have a large bearing area and are adjustable for proper clearance with the Bronze Slides, assuring accurate alignment of the blades for burr free shearing. 1200 RPM motor powers ball bearing mounted flywheel with a key type clutch. Adjustable Brake assures positive stop of ram at top of cycle. Shear can be set for continuous operation.



Shears sheet material at a rate of up to 160 strokes per minute



■ INCLINED RAM OFFERS THESE ADVANTAGES:

1. Shear blades are set at an angle to work so that only the blade edge is in contact with the material—beveled effect tends to reduce shearing force or pressure. Inclined ram approach helps counteract thrust, keeps blade straight. Net result—die accuracy in shearing.
2. Shear blades with straight sides and four shearing surfaces are securely bolted to inclined ram. Straight sided blades are easy to grind. There is no undercut on blade to catch or trap narrow strips of material.
3. Material does not bind between back gauge and lower blade because ram with back gauge attached moves down and away during stroke.
4. Ram eccentrics are mounted back from center line to hold ram against ram guides. A downward and backward pull keeps the ram housing against the guides and allows an extremely close blade clearance.

AUTOMATIC HOLD DOWN BAR — The material hold down bar is spring operated. It engages work before shearing begins, holds the material firmly in place during shearing and releases after cut has been made. The hold down bar can be adjusted to accommodate different thicknesses of material. Cutting edge of the blade is clearly visible through openings in the hold down bar which permit the rapid positioning of sheets when shearing to a scribed line. The hold down bar is attached to the shear so that it is easy to shear to a scribed line by looking down behind the hold down directly over the cutting edge.

WORK TABLE — Recessed channeled center of work table enables operator to safely and conveniently feed small sheets of material into the shear. Work table also serves as mounting base for side and protractor gauges.

BLADE STRAIGHTENER — Straightener is securely attached to the ram for additional rigidity, eliminates shimmying in order to straighten upper blade. It makes possible fast installation or turning of upper blade, provides a solid bearing surface for blade, adjusts for variations in blade thickness and contributes to accurate shearing.

No. 36P STANDARD EQUIPMENT — All Electrical Equipment, Motor — high torque, high slip, Material Hold Down Bar, Front Gauge Bar and Brackets, Side Squaring Gauges, Reversible Protractor Gauge, Set of Four-edged Blades—alloy tool steel, Movable Foot Trip Pedal, Back Gauge with easy reading scale.

NO. 36P ACCESSORIES

Electric Foot Trip Control enables operator to move foot trip control to most convenient position for shearing material. \$150.00

EXTENSION SQUARING ARM — Fits Di-Acro Shear No. 36P, No. 36K, right or left side, six and eight foot lengths. Equipped with swing stops, has recessed scale in increments of 1/16". 6 Foot \$175.00 8 Foot \$225.00 Extra Swing Stops, each. \$15.00

MICROMETER BACK GAUGE — Graduated in .001", one complete turn of micrometer dial moves gauge 1/10 of an inch. Gauge can be quickly moved from one setting to another by depressing spring loaded dial and sliding gauge along threaded rod. \$80.00 Disappearing Stops, each. \$5.00

Specifications	Power Shear No. 36P
Capacity: mild steel	16 gauge
stainless steel	18 gauge
aluminum (approx. half hard)	1/8"
Maximum Shearing Width	37 3/4"
Blade size	1/2" x 1-1/4"
Blade rake	3/8" per foot
Cutting speed — continuous	180
single stroke	2/3 of above
Motor	1.5 hp, optional 208, 220, 440, 550 volt 3 phase, 60 cycle
Specify wiring — other voltage requirements on special quotation	
Back gauge range	25"
Front gauge range	42"
Overall width	55"
Overall depth	31"
Overall depth with rear gauge	51"
Overall depth with front gauge	66"
Weight lbs., Net	1040
Shipping	1140
Export	1240
Cost	\$1350.00
SHEAR BLADES ONLY	
Alloy Tool Steel (per set)	\$ 55.00
Hi-Carbon-Hi-Chrome (per set)	\$105.00
ADDITIONAL EXTRA when Hi-Carbon-Hi-Chrome blades are installed in place of Alloy Steel blades	\$ 50.00

Rugged, welded steel construction. Nothing surpasses this machine for the high speed precision shearing of materials as heavy as 16 gauge mild steel. Cutting action takes place within one-fifth of a second . . . up to 120 strokes per minute. Self-adjusting electric clutch (disc type) assures instant response; no special air source needed. Plug it in and it's ready to go. Triple V-belt drive provides quiet operation, requires minimum maintenance. Brake is adjustable, non-drag type, engages only when blade is near top of stroke. No power loss due to brake drag, lining wears longer. Adjustable material delivery chute delivers to front, back or stacks sheared material. Inclined ram, bed adjusted lower blade and blade straightener are standard equipment. Shear blades on inclined ram are set at angle and reduce shearing force required. Inclined ram approach helps counteract thrust, keeps blade straight. Sheared material does not bind between back gauge and blade as gauge moves down and away during cut. Shear blade is straight sided, no undercut to catch or trap narrow strips of material.

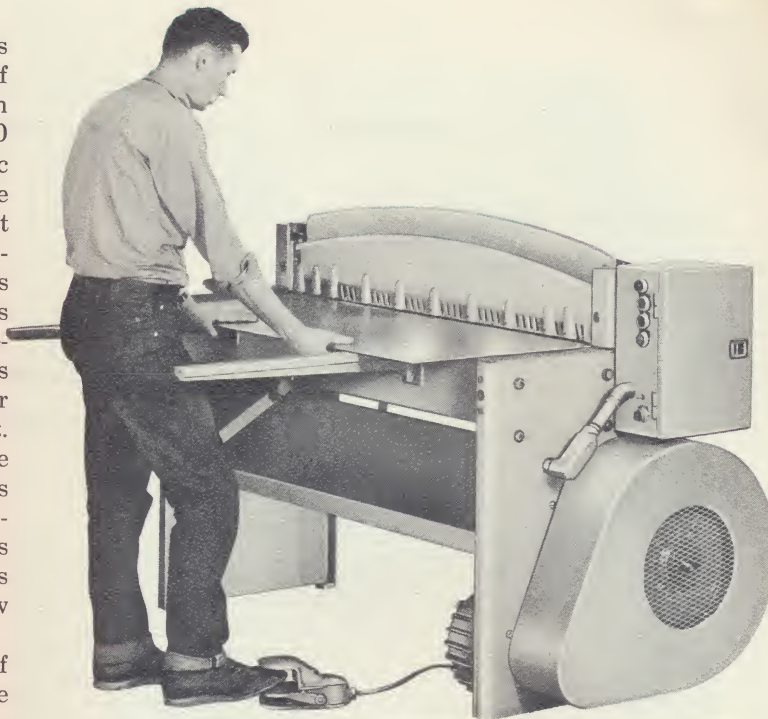
Heavy-duty construction throughout assures years of efficient, accurate and trouble free performance. Side frames, ram and bed are made from rolled steel plate. Blade straightener attached to ram provides additional rigidity. Bed is a closed box section designed to resist deflection and stress.

EXTENSION SQUARING ARM. An optional extension squaring arm for either right or left side of shear is available in six and eight foot lengths. Gauge extension is equipped with swing stops and has a recessed scale in increments of $\frac{1}{16}$ ".



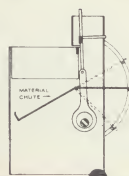
MAGNETIC CLUTCH DRIVE

Self-adjusting, electric clutch (disc type) is built into flywheel and connected to the motor by means of a triple v-belt drive (v-belts are matched). This arrangement makes for quieter operation and eliminates gears, thus greatly reducing time and cost consuming maintenance. Electric clutch provides instantaneous engagement, (no pause for pins, splines or valves to operate), gradual torque build-up absorbs shock.



STANDARD MICROMETER BACK GAUGE

Micrometer operated ball bearing back gauge is standard equipment and enables operator to shear to extremely close tolerances. One complete turn of the gauge equals .100". Micrometer wheel is graduated in .001", back gauge rule in $\frac{1}{16}$ ". Rapid traverse wheel allows fast setting changes. A front operated micrometer control assembly is available as an accessory to operate the back gauge. This assembly includes a counter that provides direct readings in both inches and thousandths.



MATERIAL CHUTE

Chute can be adjusted to stack sheets on top of each other as they are sheared or to deliver sheared material to front or rear of machine. A series of stops are provided to adjust chute to desired position.

Specifications	Power Shear No. 48
Capacity: mild steel	16 gauge
stainless steel	18 gauge
aluminum (approx. half hard)	1/8"
Blade length	50"
Blade size	3/4" x 2-3/4"
Blade rake-foot	5/16"
Cutting speed — single stroke	120 spm or as fast as operator can feed machine when shear is equipped for automatic cutting
Motor	1.5 hp. optional 208, 220, 440, 550 volt, 3 phase, 60 cycle
Specify wiring — other voltage requirements on special quotation	
Back gauge range	18"
Front gauge range	42"
Overall width	70"
Overall depth	31"
Overall depth with rear gauge	41"
Overall depth with front gauge	57"
Weight lbs., Net	1525
Shipping	1650
Export	1800
Cost	\$2,750.00
SHEAR BLADES ONLY	
Alloy Tool Steel (per set)	\$200.00
Hi-Carbon-Hi-Chrome (per set)	\$325.00
ADDITIONAL EXTRA when Hi-Carbon- Hi-Chrome blades are installed in place of Alloy Steel blades on original purchase	
	\$125.00

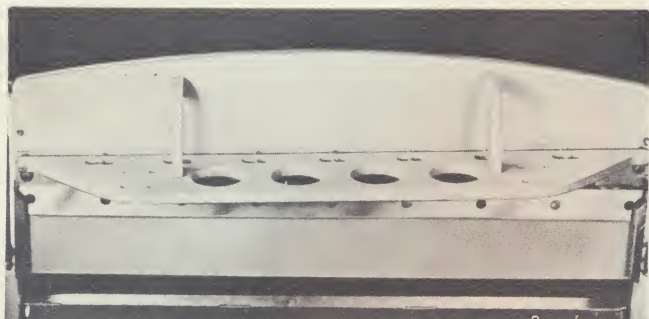
NO. 48 STANDARD EQUIPMENT:

All Electrical Equipment	Side Squaring Gauges
Motor — high torque, high slip	Reversible Protractor Gauge
Automatic Hold Down Bar with individual- ly spring loaded feet	Set of Four-edged Blades, alloy tool steel
Micrometer Operated Back Gauge — ball bearing, double bracket, rear operated	Movable Foot Trip Pedal
Front Gauge Bar and Brackets	Step Down Transformer provides 110 v current to controls for safety's sake.

NO. 48 ACCESSORIES

Selector Switch with limit switches mount- ed on back gauge. Especially useful when it is desirable to automatically cycle machine.	*Two swing stops are included as standard equip- ment with each Extension Squaring Arm.
Micrometer Front Operated Back Gauge with direct reading indicator in inches and thousandths, ball bearings. (Extra when installed in place of standard gauge)	Extra Swing stops. each \$15.00
Extension Squaring Arm, specify R. or L.* 6 ft. length \$175.00 8 ft. length \$225.00	Centralized Lubrication System (one shot) \$150.00
	Automatic Lubrication System \$300.00
	Rubber Covered Hold-Down Feet prevents scratching when shearing high finished material. Set of 11. \$8.25

■ ADDITIONAL REASONS WHY DI-ACRO GIVES YOU MORE FOR YOUR SHEAR DOLLAR



BLADE STRAIGHTENER — Straightener is securely attached to the ram for additional rigidity, eliminates shimming in order to straighten upper blade. It makes possible fast installation or turning of upper blade, provides a solid bearing surface for blade, adjusts for variations in blade thickness and contributes to accurate shearing.



BLADE RAKE — Low rake — only $\frac{3}{16}$ " to the foot — of the upper shear blade reduces twist and curl when shearing narrow strips of material.

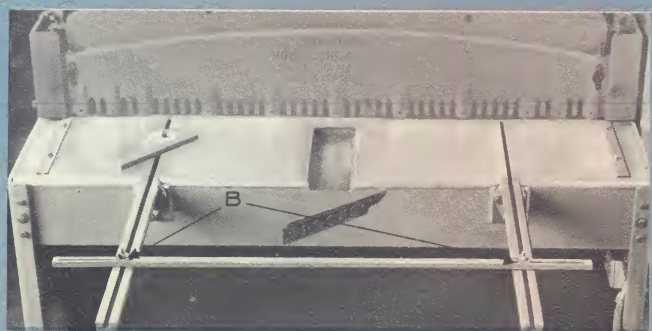


BED ADJUSTED LOWER BLADE — Lower blade is precisely set for operating clearance between blades by means of opposing screws A — at each end of the bed — that enable fine adjustment.

NOTE: Although the blades of the Di-Acro Power Shear can be adjusted to provide varying clearance, all materials within the machine's capacity can be cut without changing blade clearance. Changing blade clearance will not improve accuracy, can waste time.



HOLD-DOWN BAR — Operates automatically and acts both as a safety guard and material clamp. Hold-down has individually spring loaded feet that compensate for various thicknesses of material. Hold-down can also be adjusted to decrease pressure to prevent marring of high finish and soft sheet materials.



FRONT GAUGES — For operating ease, front gauging includes a side gauge and protractor gauge mounted on the work table. Side gauges are graduated in $\frac{1}{16}$ " increments and are adjustable to compensate for blade sharpening. Protractor gauge is adjustable to 180 degrees, can be reversed for right or left hand shearing. In addition, T-slotted front brackets and gauge bar for supporting and gauging material are provided (B). T-slots on the work table enable gauge bar to slide from brackets on to work table.

INCLINED RAM ASSURES DIE ACCURACY IN SHEARING — Inclined ram means that shear blades are set at an angle to work so that only the blade edge is in contact with the material — beveled effect tends to reduce shearing force or pressure. Inclined ram approach helps counter-act thrust, keeps blade straight. Net result — die accuracy in shearing.

Shear blades with straight sides and four shearing surfaces are securely bolted to inclined ram. Straight sided blades are easy to grind. There is no under-cut on blade to catch or trap narrow strips of material. Material does not bind between back gauges and lower blade because ram with back gauge attached moves down and away during stroke.

Ram eccentrics are mounted back from center line to hold ram against ram guides. A downward and backward pull keeps the ram slides against the guides and will allow an extremely accurate and close blade clearance.

See Inclined Ram drawing on page 21.

ECCENTRIC SHAFT

All steel eccentric shaft provides maximum rigidity. Underdriven operation of eccentric provides clean design, maximum strength.

BRAKE

Adjustable, non-drag design. Cam operation automatically releases brake while shearing, engages only when blade is near top of stroke. This eliminates any power loss due to brake drag during shearing operation, and lengthens life of brake lining.

BEARINGS

Several types of bearings are used on the Di-Acro Shear to maintain accurate alignment at all times and to reduce wear to an absolute minimum. These include: ball bearings on flywheel and motor, sleeve bearings on eccentric shaft, bronze lined ram slides and hardened and precision ground guides to eliminate galling. All bearing areas are equipped with easy-to-reach grease fittings for proper lubrication.

CONSTRUCTION

Heavy-duty construction throughout assures years of efficient, accurate and trouble free performance. Side frames, ram and bed are made from rolled steel plate. Blade straightener attached to ram provides additional rigidity. Bed is a closed box section designed to resist deflection and stress.

VISIBILITY

Cutting edge or scribed line is clearly visible through hold-down bar openings and/or over the top of hold-down bar along the entire blade length. By directing a beam of light down from top of shear between hold-down bar and ram a shadow can be played along cutting edge for added definition.



You can make notches as large as 6" x 6" in 16 gauge mild steel with a Di-Acro Notcher. Notches can be made at the corner or in any position along the edge of a sheet. Especially useful where box, chassis and panel blanks are to be made.

■ Hand Operated, Regular

The hand operated Di-Acro Notcher cuts all shearable materials easily. Ease of operation makes possible production rates which often rival those of power driven equipment. Powerful action of the Notcher is obtained through use of a roller cam; minimum operator effort is needed. Notches larger than 90° can be made in two operations. Straight shearing jobs can be done, too. Hardened alloy steel notcher blades standard, high carbon — high chrome blades extra; reversible blades are used. Adjustable table gauges. Short handle for production speed on lighter materials; long handle for notching heavier materials.

■ Power Operated, Regular

A precision machine ready to operate without loss of set-up time. Relieves heavy presses of short run production, eliminates cost of expensive dies on notching operations. Triangular ram, hardened and ground, gives positive control of shearing blades. Flywheel clutch, motor, other operating parts in sturdy, welded steel cabinet for safety and greater work visibility. Foot trip leaves hands free.



A 12" x 18" work table with adjustable gauges is standard equipment on all Di-Acro Notchers



No expensive dies, no punch press set-up, just set gauges for the right size notch and you're ready to go

Specifications

STANDARD HAND NOTCHER Model No. 1

Maximum 90° notch (one operation)	6" x 6"
Maximum material capacity — sheet steel	16 gauge
Rated capacity	4 tons
Stroke of ram	5/8"
Floor Space (on stand)	15" x 17"
Weight lbs., Net	125
Shipping	148
Export	170
Cost	\$275.00

STAND 33", Weight lbs., Net 85, Shipping 90, Export 150

Cost	\$55.00
Notcher blades	
Alloy tool steel (per set)	\$35.00
High carbon-high chrome (per set)	\$55.00
High carbon-high chrome blades extra when installed in place of alloy steel blades	\$20.00

STANDARD EQUIPMENT

Short handle when working with light materials; long handle for notching heavier materials; work table 12 x 18-in., cast and precision ground; adjustable gauges, hardened alloy steel notcher blades.

STANDARD POWER NOTCHER Model No. 1P

Maximum 90° notch	6" x 6"
Maximum material capacity — sheet steel	16 gauge
Rated capacity	5 tons
Weight of flywheel	85 lbs.
Strokes per minute	180
Standard motor	1750 rpm
110 volt AC single phase	1/2 hp
Operating height	40"
Floor space	17" x 28"
Weights lbs., Net 490, Shipping 640, Export 690	
Cost	\$795.00

Notcher blades	
Alloy tool steel (per set)	\$35.00
High carbon-high chrome (per set)	\$55.00
High carbon-high chrome blades extra when installed in place of alloy steel blades	\$20.00

STANDARD EQUIPMENT

1/2 hp motor and all electrical equipment; cast and precision ground 12 x 18-in. work table; alloy steel notcher blades; and adjustable material gauges.

■ DI-ACRO TAB NOTCHER NO. 2 — Hand Operated

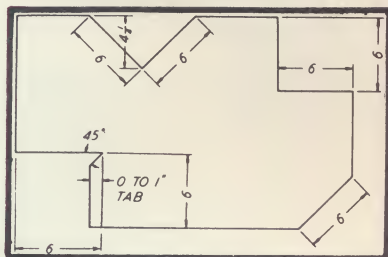


Gauges can be positioned quickly and accurately. Built-in scales assure "on-the-button" positioning. Gauges slide in slotted track to assure exact squareness — eliminates all guesswork

HAND OPERATED TAB NOTCHER No. 2



Any size notch to 6" x 6" and tab as deep as 1" can be cut on a Di-Acro Tab Notcher in one operation



The Di-Acro Tab Notcher opens up a whole new area of design possibilities and production saving on finished parts. Where time consuming methods of having to first line up, butt and then weld edges of chassis was once a production bottleneck, the job can now be done quickly and simply by spot welding an overlapping tab. This not only steps-up production but results in a finished job that is stronger and neater. Clean even cut of the Di-Acro Notcher means material savings too. Material notched or sheared from the blank is not mutilated — can often be used for other purposes.

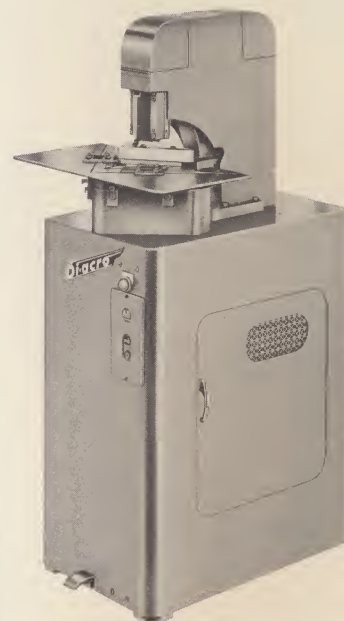
The Di-Acro Tab Notcher is the most versatile Notcher on the market. Both upper and lower cutting blades are adjustable to give you any size and depth, regular or tab notch combination within the capacity of the machine — as deep as 6" x 6" and any size tab to 1" can be cut in the corner or in any position along the edge of a sheet in one operation.

The machine is especially useful where boxes, chassis and panel blanks are to be notched and can also be used for ordinary shearing operations of strip material as wide as 6", any length.

Additional exclusive features of the machine include heavy steel Work Table, built-in Scales graduated in $\frac{1}{32}$ " for easy reading. Material Gauges slide in slotted track to prevent misalignment and are permanently squared. Heavy duty construction of both the hand and power operated Tab Notcher means continuous day in and day out accuracy and years of trouble-free performance.

■ POWER TAB NOTCHER No. 2P

A production machine that eliminates the need for specialized equipment and dies for every different notching operation. Just set the size notch and tab you want and you are ready to go. Ram is triangular hardened and precision ground for accuracy and long wear. Heavy duty construction, flywheel drive, no repeat clutch for added safety, foot trip leaves operator's hands free to feed material.



Upper and lower blades have individual adjustment which allows machine to be quickly set for any size tab notch up to 1"

SPECIFICATIONS

STANDARD EQUIPMENT TAB NOTCHER NO. 2

12 x 24 work table with built-in scales
Adjustable self-squaring gauges
Hardened steel notcher blades with reversible cutting edges
Short and long operating handle

STANDARD EQUIPMENT POWER NOTCHER NO. 2

$\frac{1}{2}$ Horsepower Motor — all electrical equipment
12 x 24 work table with built-in scales
Adjustable self-squaring gauges
Hardened steel notcher blades with reversible cutting edges

TAB NOTCHER	No. 2	No. 2P
Maximum 90° notch (one operation)	6" x 6"	6" x 6"
Maximum Tab	1"	1"
Maximum material capacity — sheet steel	16 gauge	16 gauge
Rated capacity	4 tons	5 tons
Stroke of ram	$\frac{5}{8}$ "	
Weight of flywheel		85 lbs.
Strokes per minute		180
Standard motor		1750 rpm
110 volt AC single phase		$\frac{1}{2}$ hp
Operating height		40"
Floor space	17" x 24"	17" x 28"
Weight lbs., Net	225	590
Shipping	248	740
Export	270	790
Cost, complete	\$395.00	\$915.00
Stand 33", Weight lbs., Net 85, Shipping 90, Export 150	\$ 55.00	
Notcher Blades		
Alloy tool steel (per set)	\$ 55.00	\$ 55.00
High carbon-high chrome (per set)	\$ 75.00	\$ 75.00
High carbon-high chrome blades extra when installed in place of alloy steel blades	\$20.00	\$ 20.00



■ PINCH TYPE — HAND OPERATED



Bends can be located at any point along a sheet of material with Di-Acro Rollers because of Cam Idler Roll

A versatile forming machine with exclusive Cam-actuated Idler Roll that is easily set up for experimental or production operations in sheet materials and small wire and rod stock. Available in eight hand operated models and six power models in 6 to 42 in. forming widths.

Cam-actuated Idler Roll permits forming of perfect circles with no flat spots on leading edge of material. Also, bends can be located at any point along a sheet of material and a variety of shapes — with straight sections on one or both sides of a bend — can be produced and duplicated.

Parts can be duplicated with a high degree of accuracy since the Idler Roll always returns to its pre-set position.

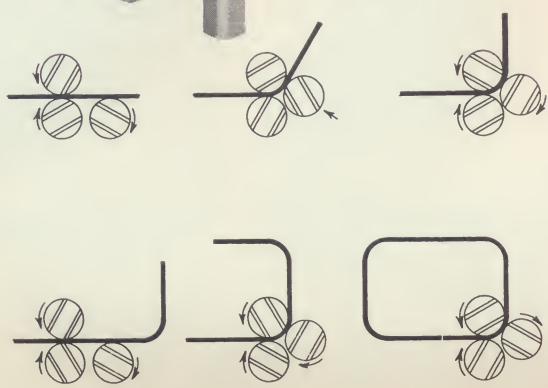
Small circles approximately the same diameter as the forming rolls can be produced in one operation.

Circles of any diameter can be formed in just two passes through the rolls. Minimum radius is determined by the diameter of the rolls with no limitation as to maximum radius.

Round, flat, square and other ductile materials can be formed with Di-Acro Rollers by grooving the bending rolls to fit the shape of the material. Grooving must be specified at time of order.



Calibrated rear roll indicators enable operator to quickly preset rolls for a given forming job.



■ FLAT MATERIAL

Can be rolled part way through the rolls (as illustrated) and when the cam lever is engaged, the idler roll is raised and a bend is formed. Disengaging the cam lever lowers the idler roll, and the material again passes through the rolls in a horizontal or flat position. It is thus possible to form a wide variety of shapes with the Di-Acro Roller.

STANDARD EQUIPMENT

Operating Handles and calibrated Rear Roll Indicators that enable the operator to quickly adjust Idler Roll to a previous setting.

REAR ROLL INDICATORS

Standard Equipment on all Di-Acro Rollers enables operator to quickly reset Idler Roll for various types of forming jobs.

Specifications

HAND OPERATED MODELS		No. 1	No. 2	No. 2A	No. 3	No. 4	No. 5	No. 6	No. 7
Di-Acro Rollers									
Max. Forming Width		6"	12"	12"	18"	24"	30"	36"	42"
Material Cap.—Steel		16 gauge	22 gauge	16 gauge	18 gauge	20 gauge	22 gauge	22 gauge	24 gauge
Diameter of Rolls		1"	1"	2"	2"	2"	2"	2"	2"
Minimum Radius		1/2"	1/2"	1"	1"	1"	1"	1"	1"
Maximum Radius		No limit	No limit	No limit	No limit	No limit	No limit	No limit	No limit
Floor Space (on stand)		15"x18-1/2"	15"x18-1/2"	15"x18-1/2"	15"x34-1/2"	15"x40"	15"x46"	15"x52"	15"x58"
Weight lbs., Net		40	50	100	135	158	170	210	325
Shipping		43	55	114	165	180	210	250	365
Export		53	70	130	180	225	250	300	415
Cost		\$135.00	\$165.00	\$215.00	\$255.00	\$295.00	\$330.00	\$365.00	\$395.00
STAND, 33" — Cost		\$55.00	\$55.00	\$55.00	\$60.00	\$65.00	\$65.00	\$70.00	\$70.00
Weight lbs., Net		86	86	86	96	108	114	140	165
Shipping		89	89	89	100	112	116	146	171
Export		126	126	126	136	133	139	165	190

STANDARD EQUIPMENT — Operating Handles and calibrated Rear Roll Indicators that enable the operator to quickly adjust Idler Roll to a previous setting.

■ DI-ACRO POWER ROLLERS

Featuring cam actuated idler roll and magnetic brake to prevent overcoasting. Increase output and eliminate operator fatigue on all roll forming jobs with the Di-Acro Power Roller. Available in six models — these self-contained units will handle sheet material to 42" in width and thicknesses up to 16 gauge steel. Safe, easy to operate, Di-Acro Power Rollers are equipped with a movable foot control that actuates rollers leaving operator's hands free to handle and position material.



FORMING ROLLS are ground and polished. Rolls will be grooved to your specifications for wire forming at the time of purchase at no additional charge but must be specified on order.

UPPER ROLL is quickly released from work position and swung upward to permit removal of formed material. Roll instantly locks back in place by tripping lever. Lever is adjustable.

LOWER ROLL has a vertical adjustment for proper clearance of material between the upper and lower rolls.



Foot control on Di-Acro Power Rollers frees operator's hands to control material and operate Cam Idler Roll

■ FEATURES

WELDED STEEL BASE extends the full length of the machine for permanent alignment of housing, bearings and rolls.

CAM ACTUATED IDLER ROLL enables the operator to form perfect circles (of any diameter larger than two inches) in sheet material in two passes through the rolls. Bends can be located at any point in a sheet of material with straight sections on one or both sides. Quantities of parts can be accurately duplicated as the Idler Roll is always returned by the lever cam to its pre-set position.

MAGNETIC BRAKE in the power unit provides a positive stop that enables operator to work to a scribed or hair line without having to try and compensate for the rolls coasting. Direction of the rolls can be switched backward, forward or stopped at any time by tripping the foot control.

POWER UNIT with enclosed housing is mounted to side frame of the machine and is connected directly to the upper and lower rolls through a series of machine cut gears. Power Unit is equipped with sleeve bearings.

STANDARD EQUIPMENT

Speed of Rolls 15 fpm on power rollers. Calibrated Rear Roll Indicators, Foot Control, Motor and all electrical equipment, welded steel base, magnetic brake and welded all steel stand.

Optional Power Package. Choice of: 1/3 hp motor, 110-220 volt, A.C. single phase, 60 cycle; or 220-440 volt, A.C. 3 phase, 60 cycle.

SPECIFICATIONS

POWER OPERATED MODELS		No. 12	No. 18	No. 24	No. 30	No. 36	No. 42
Max. Forming Width		12"	18"	24"	30"	36"	42"
Material Cap.—Steel		16 gauge	18 gauge	20 gauge	22 gauge	22 gauge	24 gauge
Diameter of Rolls		2"	2"	2"	2"	2"	2"
Minimum Radius		1"	1"	1"	1"	1"	1"
Maximum Radius		No Limit	No Limit	No Limit	No Limit	No Limit	No Limit
Floor Space		24" x 18½"	24" x 34½"	24" x 40"	24" x 46"	24" x 52"	24" x 58"
Weight lbs., Net		365	400	425	490	540	590
Shipping		415	455	485	550	610	650
Export		465	500	530	600	660	710
Cost		\$695.00	\$730.00	\$765.00	\$800.00	\$835.00	\$870.00

di-acro

PRECISION
PUNCH PRESSES



■ HAND OPERATED

standard single station punch press

A multi-purpose precision machine which perforates holes of various sizes and shapes — up to 4" in 16 gauge steel — rapidly and efficiently. Used also for an unlimited variety of blanking, drawing, embossing, and forming operations.

Has turret stripper with four stations that can be rapidly positioned for stripping the material from any size punch within its capacity.

Adjustable side and back gauges incorporated in the machine allow precision gauging for exacting duplicating operations.

Perfect alignment of the punch head is assured at all times by a triangular shaped ram which is hardened and precision ground. The roller cam provides tremendous pressure at the point of impact.

■ HORN PUNCH PRESS

Designed especially for punching odd shaped parts and curved sections without distortion, or on pre-formed items that cannot be punched on a flat surface. Doubly versatile, can also be used as a regular punch press by installing a special work table attachment.

Roller cam provides tremendous pressure with minimum operator effort. Triangular ram, hardened and precision ground, assures perfect alignment. Capacity 2" in 16 gauge steel, four station turret stripper positions rapidly for stripping material of any size within the presses' capacity.

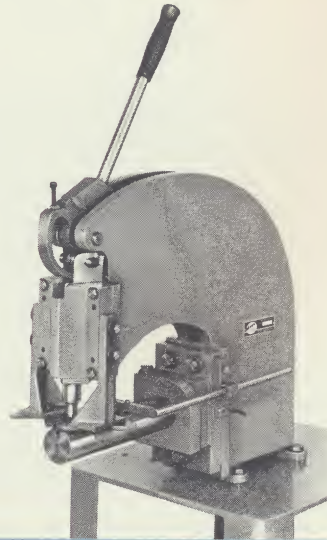
Horns are available in standard sizes from stock. Special sizes can be made to size at slight extra cost.

Work table has a machined surface and is equipped with gauges that quickly adjust from one setting to another. Quick change die holder (standard equipment) speeds changing of dies as it is not necessary to remove die holder from machine and realign dies.

IMPORTANT NOTE — single station punch and die sizes shown on pages 32-34 are available for the Horn Punch. For punching curved or tubular material, dies should be ground to fit curvature of material. Specify radius required and add \$7.50 to the costs listed in the punch and die cost schedule when ordering.



Di-Acro
Punch Press No. 2



Di-Acro
Horn Punch Press

SPECIFICATIONS STANDARD SINGLE STATION PUNCH PRESS

	No. 1	No. 2
Depth of Throat	6"	12"
Rated Capacity	4 tons	4 tons
Height of Throat	3"	3"
Stroke	5/8"	5/8"
Hole in Ram (Dia.)	1"	1"
Bed Dimensions	6" x 7 1/2"	6" x 7 1/2"
Slug Waste Hole	4 1/4" x 5 3/4"	4 1/4" x 5 3/4"
Floor Space (on stand)	15" x 17"	15" x 26"
Weight lbs., Net	170	340
Shipping	186	364
Export	200	400
Cost	\$235.00	\$325.00

STAND,	55.00	57.50
Stand weight lbs., Net	95	127
Shipping	100	135
Export	140	175

Material Capacity 4-in. dia. hole in 16 gauge sheet steel (.062"), 1/4-in. hole in 3/8-in. steel plate. Other material accordingly.

STANDARD EQUIPMENT — Standard equipment includes turret stripper, punch holder for punches with 1/2" dia. shank die holder, short and long handle for operator convenience. Choice of Style A, B, C or D Die Holder. Side and back gauges.

SPECIFICATIONS — HORN PUNCH PRESS

Rated Capacity	4 tons
Depth of Throat with Horn	7 3/4"
Depth of Throat with Table	9 3/4"
Size of Work Table	18" x 24"
Horn A — 2" diameter, capacity 16 gauge mild steel	3/4"
Horn B — 2 7/8" diameter, capacity 16 gauge mild steel	1 1/8"
Horn C — 3 7/8" diameter, capacity 16 gauge mild steel	2"
Stroke	5/8"
Weight, Net (with table)	104 lbs.
Shipping	120 lbs.
Export	135 lbs.
Horn Punch Press Cost*	\$150.00

*(Above cost includes frame, ram assembly, punch holder and two operating handles.) Refer below for cost of proper size horn, table attachments and other accessories.

ACCESSORIES

Quick Change Die Holder and Bolster	\$ 65.00
Work Table with Gauges for above Die Holder	35.00
Horn Adapter	35.00
Stripper Arm Turrets and Plate	17.50
Die Adapter A 2 3/4" O.D. x 1 1/4" I.D.	5.00
Die Adapter B 2 3/4" O.D. x 2 1/8" I.D.	5.00
Back Gauge	5.00
Horn A (2" diameter)	35.00
Horn B (2 7/8" diameter)	45.00
Horn C (3 7/8" diameter)	55.00
Floor Stand	57.50

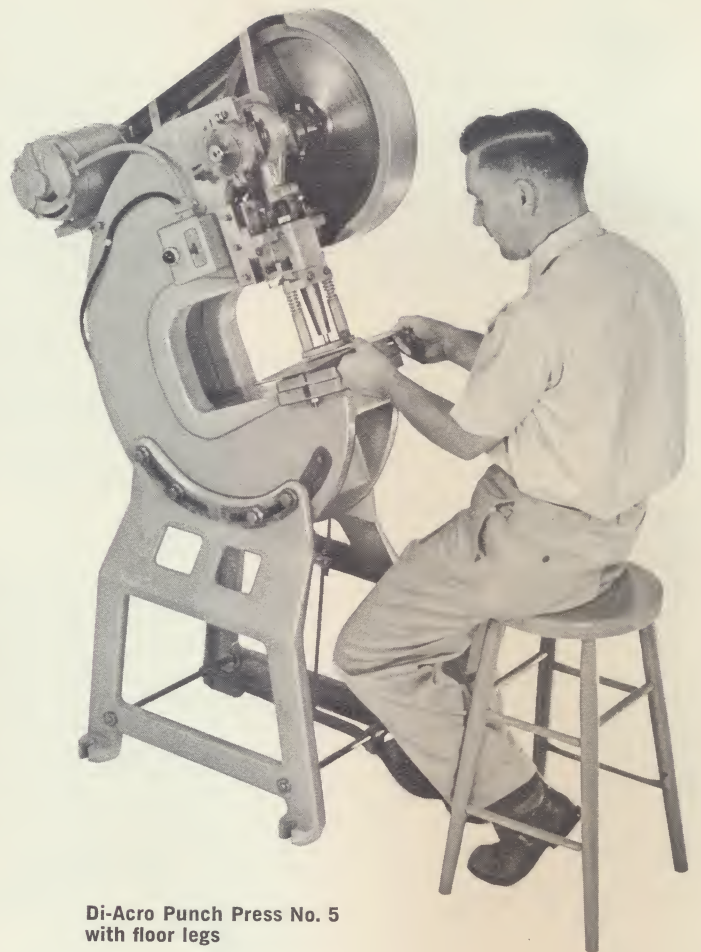
■ O.B.I. Power Press — 5 Ton Capacity

Five tons of power for punching, forming, shearing, marking, riveting, staking, embossing. This Di-Acro Open Back Inclinable Press can be set for continuous operation at 190 strokes per minute. Practical single stroke cycle rate is 150 strokes per minute. It is accurate and easy to set up. Safely operated by women or by inexperienced help without any special skill. Ample power to turn out production quantities of small parts in metals, plastic, felt, leather, rubber, etc.

Frame is one-piece sturdy cast construction reinforced at all stress points. Eccentric made of heat treated alloy steel and precision ground, high resistance to load and shock. Non-repeat single stroke safety feature; press can be switched to continuous operation by removing cam. Ram fitted with ball screw for exacting adjustment. Fully adjustable brake, easily replaceable brake bands. Bronze sleeve type bearings. Twelve in. depth of throat allows working to center of 24 in. sheet.

Available in bench and floor models. Floor legs raise press to 31 in. high from top of bolster area. Standard equipment includes brake, stripper, punch holders with 1/2 and 1-in. shank, stripper assembly; choice of one die holder having 1-1/4, 2-1/8, 2-3/4 or 3-3/4 in. opening — Styles A, B, C or D respectively.

See punch and die section pages 32-34 for complete range of types and sizes.



Di-Acro Punch Press No. 5
with floor legs

Specifications

DI-ACRO POWER PRESS	No. 5
Rated Capacity	5 tons
Stroke	1-1/4"
Shut Height — Stroke Down	
Ram Up	7"
Bolster Thickness	1-1/2"
Bolster Area	7-1/2" x 6"
Bed Opening F to B x L to R	4-1/4" x 4-1/4"
Throat Depth	12"
Back Opening	3-1/2"
Die Hole in Ram	1"
Ram Adjustment	1-1/4"
Flywheel Speed	190 rpm
Motor, 1/2 hp 110-220	
Volt AC single phase	1750 rpm
Floor Space (on legs)	17" x 24"
Weight lbs., Net	600
Shipping	670
Export	720
BASE COST, Bench Model	\$465.00
BASE COST, Floor Model	506.00
Belt Guard	40.00
Motor	62.50

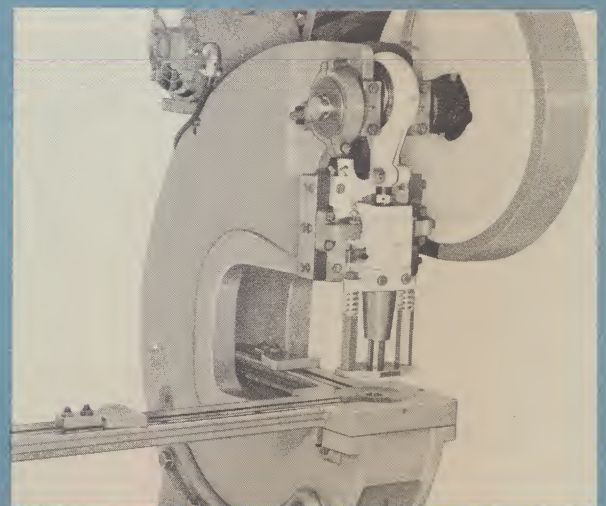
ACCESSORIES

Floor legs — Cast grey iron. Equipped with foot control unless otherwise specified.
Cost\$50.00

Exten-Table Gauge — Consists of die holder, adjustable back and side gauges. Die holder opening is 4-3/4 in. adapters available to reduce to 1-1/4, 2-1/8, 2-3/4, and 3-3/4 in. Back Gauge, 12 in. long; side gauge, 24 in. long with 1/16-in. graduations. Exten-Table Gauge (less adapters).
Cost\$95.00

Die Adapters for Exten-Table Gauge.
Cost each\$7.50

I.D.
Adapt. O.D. (bore)
C 4-3/4" 1-1/4"
D 4-3/4" 2-1/8"
E 4-3/4" 2-3/4"
F 4-3/4" 3-3/4"



EXTEN-TABL GAUGE

An accessory that provides a positive two-way material stop. Material stop on each gauge arm can be adjusted 12 in. to back of machine and 24 in. to side of machine. Gauge is ruled with 1/16 in. graduations.

■ HAND OPERATED turret punch presses

Twelve and eighteen stations in these Punch Presses enable the operator to rapidly punch a wide variety of round or irregular shaped holes ($\frac{1}{16}$ " to 2" in diameter) in sheet material with a swirl of the turrets.

Designed for use in model shops and for short run production, these machines can be equipped with "Micro Twin" front operated micrometer-type back and side gauges (an accessory). Gauges can be set at any point from maximum adjustment to the center of the smallest punch in just 60 seconds.

The tolerances can be maintained because of the positive alignment between punches and dies. You can punch burr free holes in the thinnest material.

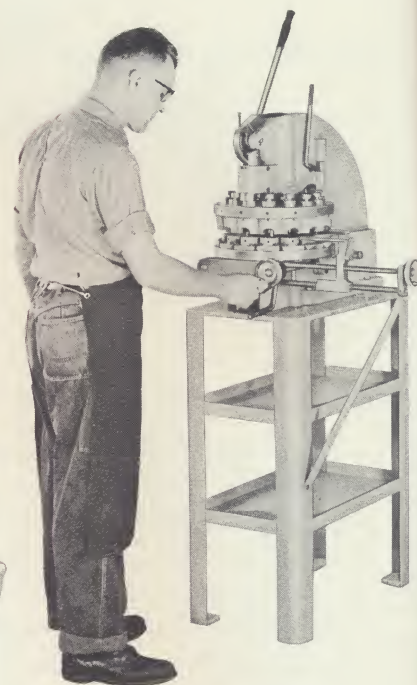
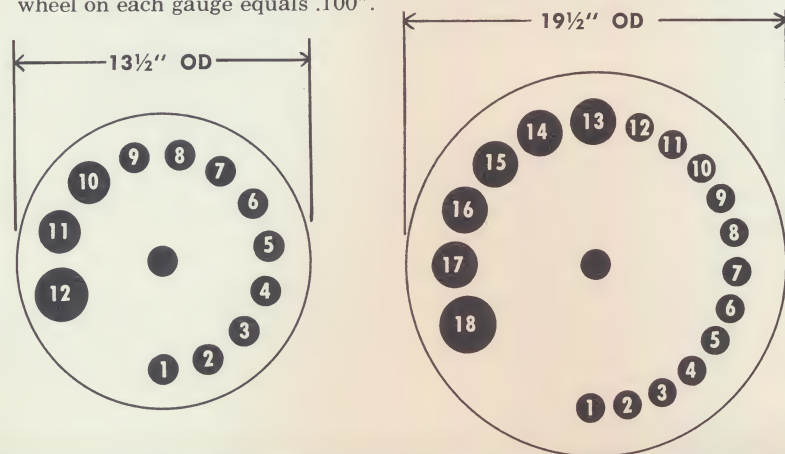
Turrets rotate independently on 12 station model, simultaneously on 18 station model. All stations in the turrets are numerically marked to prevent the possibility of misalignment.

IMPORTANT PLEASE NOTE: All punches and dies listed on pages 32 and 33 are also available for Di-Acro Turret Punch Presses. Costs are as shown **except** all round punches to $\frac{1}{2}$ " diameter are \$3.25 each as they have a 1" diameter shank. When ordering, specify "for Turret Punch."

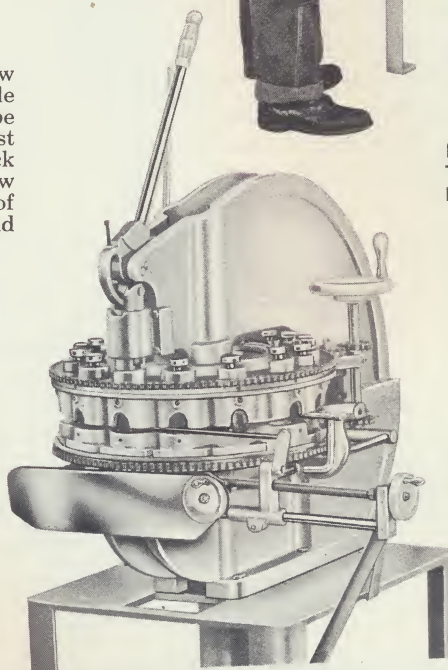
■ RAPID GAUGING

A Di-Acro Exclusive

"Quick as a wink" gauging of materials can be possible with the new Di-Acro Turret Punch Press because of the micrometer type back and side gauges available as accessories. These gauges — called Micro Twin — can be set at any point from maximum adjustment to the center of the smallest punch and die mounted in the turret in just 60 seconds. Travel of the back gauge is limited to the depth of throat. Maximum travel of the lead screw on the side gauge is 18". Layout time is reduced to a minimum because of speed of gauging with the Micro Twin Gauges. One turn of the hand wheel on each gauge equals .100".



Di-Acro
Turret Punch
Press No. 12



Di-Acro
Turret Punch
Press No. 18

STANDARD TURRET PUNCH LAYOUT

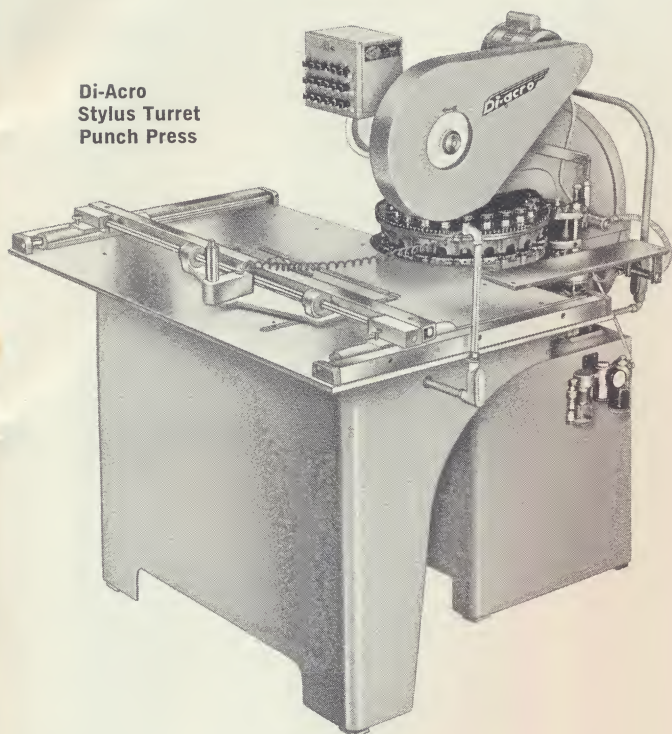
12 STATION			18 STATION		
Stations	Punch Size	Suggested Standard Arrangement	Punch Size	Suggested Standard Arrangement	
1	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{1}{8}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{1}{16}$	
2	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{3}{16}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{1}{8}$	
3	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{1}{4}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{5}{32}$	
4	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{5}{16}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{3}{16}$	
5	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{3}{8}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{7}{32}$	
6	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{7}{16}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{1}{4}$	
7	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{1}{2}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{5}{16}$	
8	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{5}{8}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{3}{8}$	
9	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{3}{4}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{7}{16}$	
10	$\frac{23}{32}$ " thru $1\frac{1}{16}$ "	$\frac{7}{8}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{1}{2}$	
11	$\frac{23}{32}$ " thru $1\frac{1}{16}$ "	1	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{5}{8}$	
12	$1\frac{15}{32}$ " thru 2"	$1\frac{1}{2}$	$\frac{1}{16}$ " thru $\frac{3}{4}$ "	$\frac{3}{4}$	
13	—	—	$\frac{23}{32}$ " thru $1\frac{1}{16}$ "	$\frac{13}{16}$	
14	—	—	$\frac{23}{32}$ " thru $1\frac{1}{16}$ "	$\frac{7}{8}$	
15	—	—	$\frac{23}{32}$ " thru $1\frac{1}{16}$ "	$\frac{13}{16}$	
16	—	—	$\frac{23}{32}$ " thru $1\frac{1}{16}$ "	1	
17	—	—	$\frac{23}{32}$ " thru $1\frac{1}{16}$ "	$1\frac{1}{4}$	
18	—	—	$1\frac{15}{32}$ " thru 2"	$1\frac{1}{2}$	
Cost		85.00	Cost		129.50

TURRET TYPE	No. 12	No. 18
Capacity	4 tons	4 tons
Depth of Throat	12"	18"
Maximum Punch Diameter	2"	2"
Clearance between Dies and Stripping Surface	23/64	23/64
Stroke of Ram	5/8"	5/8"
Floor Space (on stand)	28" x 30"	34" x 36"
Weight lbs., Net	460	875
Shipping	485	1000
Export	520	1150
Cost (w/o punches & dies)	\$745.00	\$995.00
Micro-Twin micrometer gauges	95.00	95.00
Work Table with Gauges	155.00	155.00
STAND,	55.00	70.00
Stand weight lbs., Net	130	128
Shipping	135	133
Export	165	163
2-in. dia. hole in 16 gauge sheet steel (.062"), 1/4-in. hole in 3/16-in. steel plate. Other material accordingly.		

STANDARD EQUIPMENT

Standard equipment includes, Stripper Plate for each punch unit, short and long operating handle for operator convenience.

Di-Acro
Stylus Turret
Punch Press



■ POWER OPERATED stylus turret punch press

The most economical precision stylus punch on the market today for its size and accuracy. Punches up to eighteen holes of different shapes and sizes to 2" in diameter as fast as the operator can trace a template with the stylus — up to 140 holes per minute on production runs.

Push button electric die selector rotates and automatically aligns upper and lower turrets to any one of the 18 stations. Gives you long production run economy even on short run jobs.

Sheet material as large as 19" x 24" can be punched with an accuracy of plus or minus .005. Stylus is equipped with re-circulating ball bearings for friction free motion both back and forth and sideways.

Quick change punch and die holders (standard equipment) enable an operator to change a complete punch and die set in less than two minutes and in most cases, a few seconds.

A complete selection of punches and dies are available from factory stock as listed below. Keyed punches and dies are also available at slight additional cost.

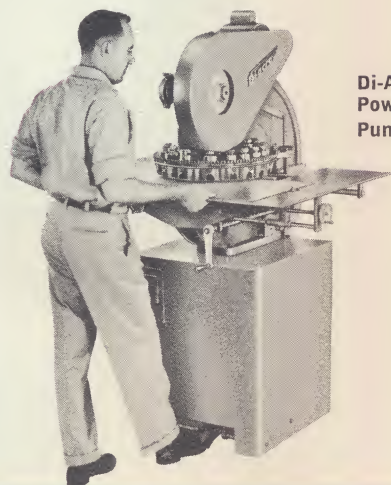
**For complete information,
write for new 44-page catalog.**



■ POWER OPERATED Turret Punch Press

Designed for production, model and experimental departments. Has fast set-up, consistent accuracy. "Micro-Twin" front operated micrometer back and side gauges can be set at any point from maximum adjustment to the center of the smallest punch in just sixty seconds (see page 30 "rapid gauging").

Upper and lower turrets rotate simultaneously, eliminating the chance of damaging the punch or die due to misalignment. Positive alignment also enables operator to punch burr-free holes in the thinnest material.



Di-Acro
Power Turret
Punch Press No. 18

IMPORTANT — PLEASE NOTE

All punches and dies listed on pages 32 and 33 are also available for the Stylus and No. 18 power operated Di-Acro Turret Punch Press. Costs are as shown except all round punches to 1/2" diameter are \$3.25 each as they have a 1" diameter shank. When ordering punches and dies specify "for Turret Punch Press."

SPECIFICATIONS STYLUS TURRET PUNCH

Capacity	7 1/2 tons
Throat Depth	19"
Maximum Punch Diameter	2"
Stroke of Ram	5/8"
Clearance between Dies and Stripping Surface	3/4"
Flywheel	52 lbs.
	245 RPM
Stylus Diameter 1/4". Optional stylus 1/8" diameter (specify)	
Motor	110 Volt A.C. single phase, 1/2 hp
Depth	63"
Height	68"
Width	60"
Weight Net	1525 lbs.
Shipping	1730 lbs.
Export	1880 lbs.

Cost

Model 18H Stylus Turret Punch With Hand Turret Selector... (W/O Punches and Dies)	\$4950.00
Model 18E Stylus Turret Punch With Electric Button Turret Selector (W/O Punches and Dies)	\$5950.00

STANDARD EQUIPMENT

1/2 hp motor and all electrical equipment, Quick Change Punch and Die Holders for each Station, Stripper Plate for each Station, Drive Belt, Drive Belt Guard.

Model 18H only — Hand Wheel Turret Selector.

Model 18E only — Electric Push Button Turret Selector and all Related Equipment.

ACCESSORIES

Special Adapters to Convert Series 33 and 44 Adjustable Punches for Use in Turret Punch. Keyed Punches and Dies.

SPECIFICATIONS NO. 18 POWER

Capacity	7 1/2 tons
Throat Depth	18"
Maximum Punch Diameter	2"
Stroke of Ram	5/8"
Clearance between Dies and Stripping Surface	3/4"
Flywheel	52 lbs.
	245 RPM
Motor	110-220 VAC single phase 1/2 HP
Length	46"
Height	68"
Width	48"
Weight, Net	1100 lbs.
Shipping	1200 lbs.
Export	1300 lbs.
Cost (W/O Punches and Dies)	\$1995.00

Standard Equipment — 1/2 H.P. Motor and all Electrical Equipment, Punch Holders to hold 1/2" and 1" shanked punches, Stripper Plate for each punch unit, Micro-twin Micrometer Gauges, Drive Belt, Drive Belt Guard, Work Table.



SINGLE STATION TYPE

- Single Station precision punches and dies with adapters to fit all punch presses
- Shipment within 24 hrs. on most sizes

FEATURES INCLUDE:

Concentricity — Punches and dies are made with high degree of concentricity to assure accurate alignment and rapid changeover in event replacement must be made.

Centering Point — A concentric ground centering point is provided on all perforating punches for the accurate location of holes when using punches 1/8 in. and up for precision layout work.

Twin Shear — All punches requiring more than 4 tons to punch 16 gauge mild steel (13/16" and larger round or equivalent irregular size) are ground with a twin shear which reduces necessary power about 50 per cent. Punches 13/16" or larger are also available at no extra cost without twin shear but this must be specified on order.

Clearance — Standard clearance is .007" - .008".

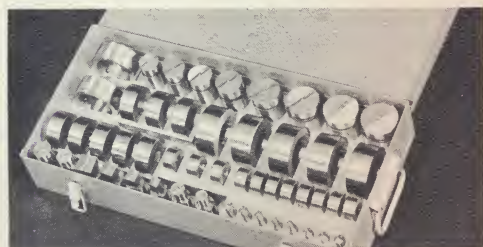
Round Punches and Dies — available in increments of .001" on request at no extra charge.

Square or irregular punches and dies — if special clearance is desired, add \$7.50 per set. Or if special size (between those listed) is desired, add \$15.00 per set to cost of nearest size, also specify clearance desired if other than standard.

BLANKING DIES

Rounds — available at no extra cost *without* shear on die. Shear on die reduces punching pressure required. If shear on die is desired, specify amount of shear and add \$7.50 to listed cost.

Square, Oval or Rectangular — If standard listed size add \$15.00. If in between size, use cost of next larger standard listed size and add \$15.00.



DI-ACRO PUNCH-PAKS

Punch-Paks are assortments of commonly used punches and dies stored in handy metal containers. These Punch-Paks eliminate production delays, save lost time looking for the right sizes or having to order special.

Punch-Pak No. 1 contains 30 sizes of round punches and dies, 3/64 through 1/2 in. in increments of 1/64 in. Net wt. 13 lb., Ship. wt. 18 lb.
Cost\$139.50

Punch-Pak No. 2 (illustrated) contains 8 rounds, sizes 1/16 through 1/2 in. increments of 1/16 in.; 12 rounds, sizes 1/2 through 2 in., increments of 1/8 in.; 4 squares in 1/2, 5/8, 3/4 and 1 in. sizes; Plus Std. Die Holder C, Adapters A and B. Net wt. 40 lb., Ship. wt. 45 lb.
Cost\$259.50

All Punches are Chrome Alloy Steel hardened 60-62 Rockwell C scale.

NOTE: These single station punches and dies are not interchangeable with the adjustable punches and dies on pages 38 through 39.

IMPORTANT

All Di-Acro single station punches and dies listed above and page 33 are also available for Di-Acro Turret Punch Presses. Costs are as shown EXCEPT all round punches to 1/2" diameter are \$3.25 each as they have a 1" diameter shank. When ordering, specify "for Turret Punch." Also specify if punch and die are for Di-Acro Turret Punch Press (sizes to 2 in. round or equivalent square or irregular shape only).

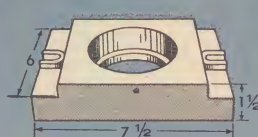
ROUND

SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST
Drill No's. 1 to 66	2	A	\$5.00	41/64 21/32 43/64 11/16 45/64 23/32 47/64 3/4	4 3.75	A 2.75	6.50	1-21/32 1-11/16 1-23/32 1-3/4 1-25/32 1-13/16 1-27/32	4 7.75	C 7.25	15.00
1/32 3/64 1/16 5/64 3/32 7/64 1/8	2 2.25	A 2.75	5.00	49/64 25/32 51/64 13/16 53/64 27/32 55/64 7/8	4 3.75	B 4.25	8.00	1-7/8 1-29/32 1-15/16 1-31/32 2	4 8.75	C 7.25	16.00
9/64 5/32 11/64 3/16 13/64 7/32 15/64 1/4	2 2.25	A 2.75	5.00	57/64 29/32 59/64 15/16 61/64 31/32 63/64 1	4 3.75	B 4.25	8.00	2-1/16 2-1/8 2-3/16 2-1/4 2-5/16	4 9.75	D 9.25	19.00
17/64 9/32 19/64 5/16 21/64 11/32 23/64 3/8	2 2.25	A 2.75	5.00	1-1/32 1-1/16 1-3/32 1-1/8 1-5/32 1-3/16	4 4.75	B 4.75	9.50	2-3/8 2-7/16 2-1/2 2-9/16 2-5/8	4 10.75	D 10.25	21.00
25/64 13/32 27/64 7/16 29/64 15/32 31/64 1/2	2 2.25	A 2.75	5.00	1-1/32 1-1/16 1-3/32 1-1/8 1-5/32 1-3/16	4 4.75	B 4.75	9.50	2-11/16 2-3/4 2-13/16 2-7/8 2-15/16 3	4 11.75	D 11.25	23.00
33/64 17/32 35/64 9/16 37/64 19/32 39/64 5/8	4 3.75	A 2.75	6.50	1-7/32 1-1/4 1-9/32 1-5/16 1-11/32 1-3/8 1-13/32 1-7/16	4 5.75	B 4.75	10.50	3-1/16 3-1/8 3-3/16 3-1/4 3-5/16	4 15.50	E 14.50	30.00
				1-15/32 1-1/2 1-17/32 1-9/16 1-19/32 1-5/8	4 6.75	C 7.25	14.00	3-3/8 3-7/16 3-1/2 3-9/16 3-5/8	4 16.50	E 14.50	31.00
								3-11/16 3-3/4 3-13/16 3-7/8 3-15/16 4	4 17.50	E 16.50	34.00

SQUARE

SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	PUNCH COST	DIE STYLE COST	DIE COST	SET COST
1/8	2	A	13.50	19/32 5/8	4 8.00	B 13.50	21.50	1-3/16	4	12.50	C	18.00	30.50
5/32 3/16	2 4.50	A 10.00	14.50	21/32 11/16	4 8.50	B 14.00	22.50	1-1/4	4	13.00	C	18.50	31.50
7/32 1/4	2 5.00	A 10.50	15.50	23/32 3/4	4 9.00	B 14.50	23.50	1-5/16	4	13.50	C	19.00	32.50
9/32 5/16	2 5.50	A 11.00	16.50	25/32 13/16	4 9.50	B 15.00	24.50	1-3/8	4	14.00	C	19.50	33.50
11/32	2	A	17.50	27/32 7/8	4 10.00	B 15.50	25.50	1-7/16	4	14.50	C	20.00	34.50
3/8	4	A	17.50	29/32 15/16	4 10.50	B 16.00	26.50	1-1/2	4	15.00	C	20.50	35.50
13/32 7/16	4 6.50	A 12.00	18.50	31/32 1	4 11.00	B 16.50	27.50	1-9/16	4	15.50	D	21.00	36.50
15/32 1/2	4 7.00	A 12.50	19.50	1-1/16	4 11.50	C 17.00	28.50	1-5/8	4	16.00	D	21.50	37.50
17/32 9/16	4 7.50	B 13.00	20.50	1-1/8	4 12.00	C 17.50	29.50	1-11/16	4	16.50	D	22.00	38.50
								1-3/4	4	17.00	D	22.50	39.50
								1-13/16	4	17.50	D	23.00	40.50
								1-7/8	4	18.00	D	23.50	41.50
								1-15/16	4	18.50	D	24.00	42.50
								2	4	19.00	D	24.50	43.50

■ DIE HOLDERS



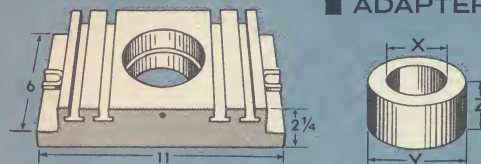
Standard Holders — \$12.50 each

DIE HOLDERS STYLE — read across

Std. Holder	T-Slot Holder	Bore in Holder (in.)	Accommodates Die Style
A	F	1-1/4	A
B	G	2-1/8	B
C	H	2-3/4	C
D	I	3-3/4	D
E	J	4-3/4	E

Blank die holders (no center hole) available for special requirements at standard costs listed.

■ ADAPTERS



T-Slot Holders — \$24.50 each

ADAPTERS X Y Z

Adapter	(all dimensions in inches)	Fits Die Holder(s)
A	1-1/4 2-3/4 1-5/32	C and H
B	2-1/8 2-3/4 1-5/32	C and H
C	1-1/4 4-3/4 1-5/32	E and J
D	2-1/8 4-3/4 1-5/32	E and J
E	2-3/4 4-3/4 1-5/32	E and J
F	3-3/4 4-3/4 1-5/32	E and J
G	1-1/4 2-1/8 7/8	B and G

Adapters A-B-G—\$5.00 ea. Adapters C-D-E-F—\$7.50 ea.

OVAL

33

SPECIAL PURPOSE PUNCHES AND DIES

FOR USE IN SINGLE STATION OR ADJUSTABLE PUNCH AND DIE PROGRAM

IMPORTANT: PLEASE READ BEFORE ORDERING

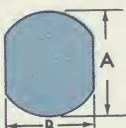
Punches and dies in the single station program and the adjustable program are not interchangeable. Length of punch shank and height of die button in the adjustable program are deliberately shorter so that they will fit a press with minimum shut height of 6-1/4". It is important that you specify the style of punches and dies when ordering. List whether for use with standard punches and dies, turret punches and dies or the adjustable punch and die program.

■ NOTCHING



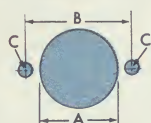
Size	Punch Cost	Die Cost	Set Cost
90°-1"	15.00	20.00	35.00
60°-1-7/16"			
90°-2"	40.00	55.00	95.00

■ DOUBLE 'D' SHAPE



A	Size B	Punch Cost	Die Cost	Set Cost
.391	.344	12.00	18.00	30.00
.516	.468	12.00	18.00	30.00
.630	.562	12.00	18.00	30.00
.760	.640	12.00	18.00	30.00
1.360	1.141	17.00	23.00	40.00

■ 7 and 9 PIN TUBE BASE — Capacity, 16 gauge mild steel



A	Size B	C	Punch Cost	Die Cost	Set Cost
.6406	.8750	.098	35.00	20.00	55.00
.7812	1.125	.098	35.00	20.00	55.00

■ KEYWAY



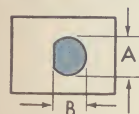
Punch Cost	Die Cost	Set Cost
12.00	23.00	35.00

■ CORNER ROUNDING



Radius Size	Punch Cost	Die Cost	Set Cost
1/8	20.00	27.50	47.50
3/16	20.00	27.50	47.50
1/4	20.00	27.50	47.50
5/16	20.00	27.50	47.50
3/8	30.00	45.00	75.00
1/2	30.00	45.00	75.00
5/8	30.00	45.00	75.00
3/4	30.00	45.00	75.00
7/8	30.00	45.00	75.00
1	30.00	45.00	75.00

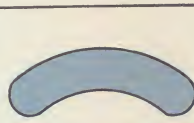
■ "D" SHAPE



A	Size B	Punch Cost	Die Cost	Set Cost
.315	.281	10.00	15.00	25.00
.375	.343	10.00	15.00	25.00
.406	.359	10.00	15.00	25.00
.440	.410	10.00	15.00	25.00
.505	.473	10.00	15.00	25.00
.562	.541	10.00	15.00	25.00
.630	.590	10.00	15.00	25.00

SPECIALS

In addition to the special purposes punches and dies shown on this page, specials can be made to your specifications. Just send our Engineering Department a sketch or drawing of the punch and die and a quotation will be promptly sent to you.

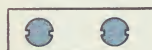


■ HEXAGON CUTOUTS



Size B	Punch Cost	Die Cost	Set Cost
1/4	15.00	20.00	35.00
3/8	15.00	20.00	35.00
1/2	15.00	20.00	35.00

■ ELECTRICAL OUTLET KNOCKOUT



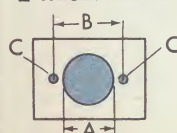
Conduit Size	Hole	Punch Cost	Die Cost	Set Cost
3/8	11/16	6.50	4.50	11.00
1/2	7/8	7.50	5.00	12.50
3/4	1-1/16	8.50	5.50	14.00
1	1-3/8	9.50	6.00	15.50

■ KEYHOLE



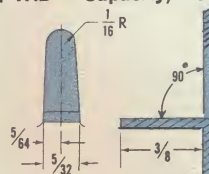
A	Size B	C	Punch Cost	Die Cost	Set Cost
1/4	1/8	7/16	30.00	20.00	50.00
3/8	3/16	5/8	30.00	20.00	50.00
1/2	1/4	7/8	32.50	22.50	55.00
5/8	5/16	1	32.50	22.50	55.00
3/4	3/8	1-1/4	32.50	22.50	55.00

■ RECEPTACLE — Capacity, 16 gauge mild steel



A	B	C	Punch Cost	Die Cost	Set Cost
1-1/8	1-1/2	3/16	35.00	20.00	55.00
1-3/8	1-13/16	3/16	35.00	20.00	55.00

■ TAB — Capacity, 16 gauge mild steel



OUTSIDE OF CHASSIS

Punch Cost	Die Cost	Set Cost
15.00	25.00	40.00

■ TRIM AND CUT OFF*



Radius Size	Width	Punch Cost	Die Cost	Set Cost
1/8	1/4	40.00	45.00	85.00
3/16	3/8	40.00	45.00	85.00
1/4	1/2	40.00	45.00	85.00
5/16	5/8	40.00	45.00	85.00
3/8	3/4	45.00	50.00	95.00
7/16	7/8	45.00	50.00	95.00
1/2	1	45.00	50.00	95.00
3/4	1-1/2	50.00	55.00	105.00

*For standard and turret punch only.
Adjustable program requires special quotation.

ADJUSTABLE TYPE PUNCHES AND DIES

CAPACITY — 14 GA. MILD STEEL, 1/8" SOFT ALUMINUM

Now You Can Economically Punch a Number of Holes in a Variety of Shapes and Sizes in One Operation

Di-Acro Adjustable Punches and Dies offer rapid, inexpensive tooling for the simultaneous punching of a number of holes in a variety of shapes and sizes, plus these other important advantages:

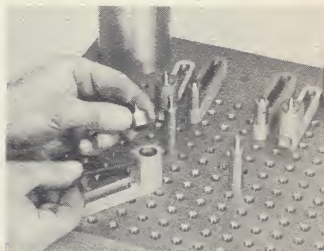
1. Quick, easy setup. Di-Acro punches and dies can be set up and aligned outside the press in which they are to be used. Safer, faster, easier.
2. Two way setup. Tool holders can be locked to die set using choice of inside or outside locking adjustment methods; use method providing easiest access.
3. Reusable. The same punch and die set can be used over and over. Master templates can be filed for repeat runs.
4. Precision. All hole centers are easily held within .005".
5. Minimum punching centers of 3/4". Hole centers vary with size of punch and die holders used.
6. Quick delivery. All standard cataloged items are ordinarily available for immediate delivery from factory stock. Delivery on specials quoted on request.
7. Quick radial adjustment. Circular locking groove allows each Di-Acro Adjustable Punch or Die to be revolved 360° within tool holder; irregular shapes can be located radially relative to their holders.
8. Minimum shut height. Minimum press shut height required is 6-1/4", even when punching holes as large as 1-3/4" diameter.



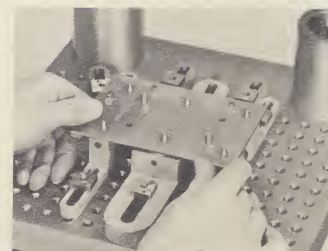
NOTE: Adjustable punches and dies are not interchangeable with the punches and dies offered in standard single station units. They are totally different programs.

Ask for detailed information on Di-Acro Adjustable Punch and Die Program in Catalog D-APD

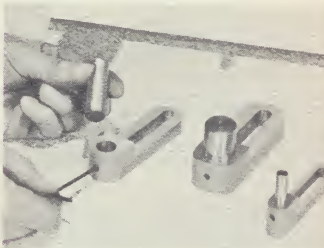
Easy Set-up



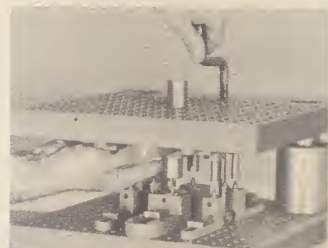
DIE LOCATING PLUGS are mounted in die holders. Material holders with gauges inserted are also placed on die set. All locating plugs and stops have 1/4" points.



TEMPLATE is placed over die locating plugs and material gauge stops to establish their exact position. Holders are fastened to the lower plate.



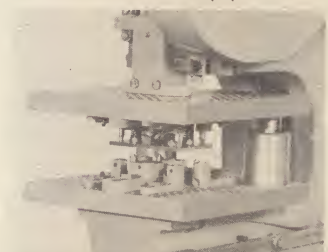
PUNCH LOCATING PINS are secured in punch holders which are loosely mounted on top plate of die set — not yet fastened to top plate of the die set.



UNIFORM CLEARANCE is obtained by lowering top plate so punch locating pins align with die locating plugs. Punch holders are secured to top plate.

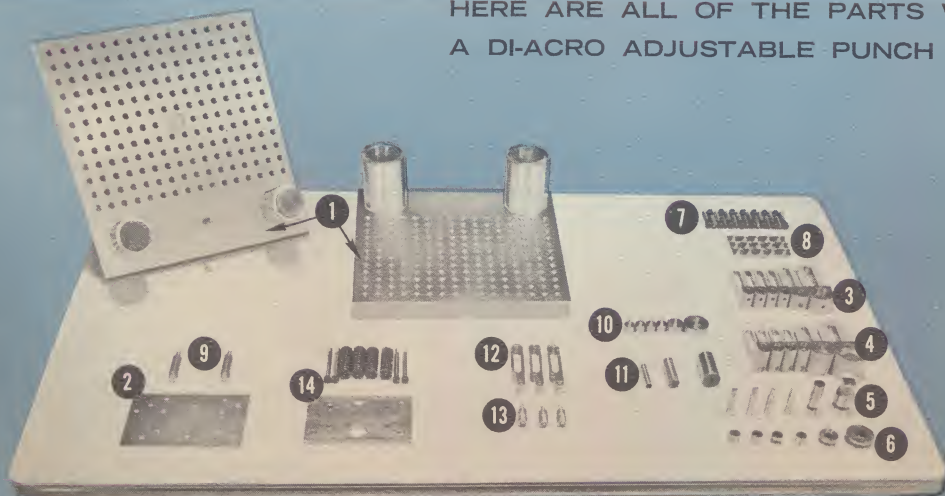


ALL PUNCH LOCATING PINS and die locating plugs are replaced with punches and dies which are fastened in holders.



STRIPPER PLATE (or rubber stripper) is mounted on die set and die set is mounted in a press — you're ready to go!

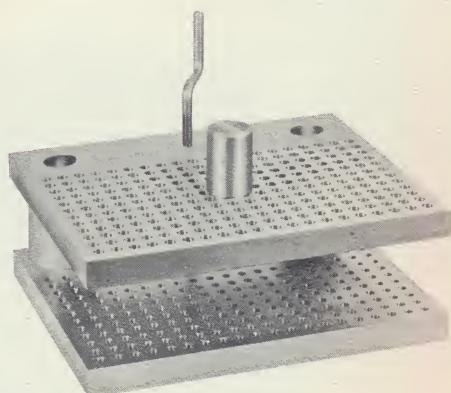
HERE ARE ALL OF THE PARTS WHICH GO INTO A DI-ACRO ADJUSTABLE PUNCH AND DIE SET



- | | |
|---------------------------|-------------------------------------------------|
| 1. Die Set | 10. Die locating plugs |
| 2. Template | 11. Punch locating pins |
| 3. Punch Holders | 12. Material Gauge Holders |
| 4. Die Holders | 13. Material Gauges |
| 5. Punches | 14. Stripper (either plate or rubber strippers) |
| 6. Dies | |
| 7. Cap Screws* | |
| 8. Hold-down Nuts* | |
| 9. Template locating pins | |

*For outside locking adjustment method

■ BALL BEARING DIE SETS • BACK and CENTER POST TYPES



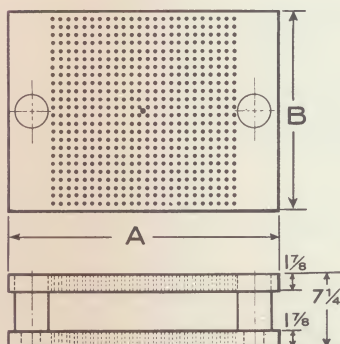
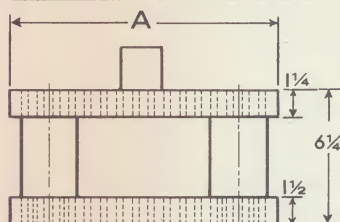
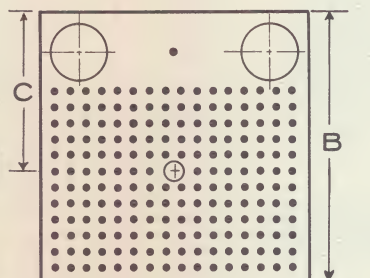
Two styles of die sets are available as standards for use with Di-Acro Adjustable Punches and Dies. Larger sizes on request.

Di-Acro die sets are equipped with Lemco ball bearings. Negative clearance assures long die life; misalignment is eliminated; assembly and disassembly are speeded.

Crank operated adjusting screw, standard with all Di-Acro die sets, permits top plate to be lifted or lowered when assembling, so that clearance between punch and die can be checked outside press.

Pegboard hole pattern on top and bottom plates allows minimum punching centers of 3/4". Wide range of sizes and shapes of punches, dies can be set up for multiple hole punching in one operation.

More than 30 holes can be punched simultaneously on an adjustable die set with a 9" x 12" area.



■ BACK POST • STYLE MHA

Minimum press shut height required to operate this style die set—6-1/4". When ordering style MHA die sets (back post type) specify diameter of punch shank (size of hole in ram). Also specify distance from center of punch shank hole to maximum depth of throat if shank is not to be positioned on top plate of die set as shown on drawing and in table below (dimension C). If special dimension is required, it should be specified in increments of 3/4" from the standard location.

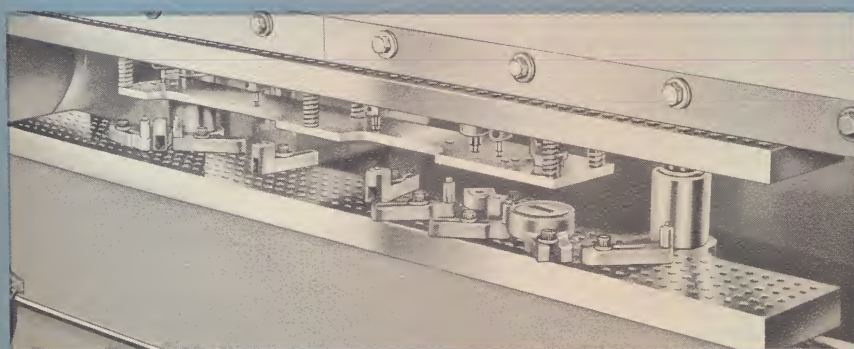
CATALOG NUMBER	DIE AREA	A	B	C	COST
ADS-13	9" x 12"	12-3/4"	12-3/4"	7-1/2"	\$195.00
ADS-16	12" x 15"	15-3/4"	15-3/4"	9"	245.00
ADS-19	15" x 18"	18-3/4"	18-3/4"	10-1/2"	295.00

WHEN SPECIAL SIZE DIE SET IS REQUESTED, it is necessary to furnish dimensions A and B as shown in drawings of style MHA and MHB die sets. Also, if style MHA (back post type) die set is requested dimension C must be furnished as well as diameter of punch shank required.

■ CENTER POST • STYLE MHB

CATALOG NUMBER	DIE AREA	A	B	COST
ADS-26	18" x 18"	25-3/4"	18-3/4"	\$395.00
ADS-32	18" x 24"	31-3/4"	18-3/4"	475.00
ADS-44	18" x 36"	43-3/4"	18-3/4"	595.00

MAXIMUM STROKE LENGTH when standard die set is used with a press in inclined position should not exceed 3 1/4" on MHA back post type and 3 3/4" on MHB center post type (additional stroke length to 1" provided on request). When die set is used with vertical press, guide posts can be safely stripped from bushings.



■ BACK POST • STYLE ADS FOR PRESS BRAKES

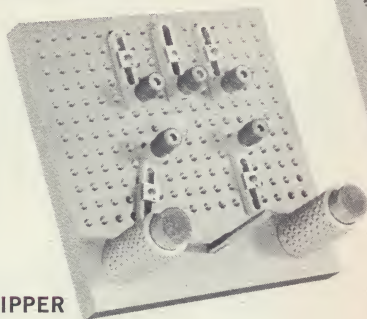
Designed to fit all press brakes now on the market, capacity to 14 gauge mild sheet steel. No angle brackets or other special attachments are required for installation—upper and lower punch and die holders are equipped with a tongue and mount the same way as a press brake die.

Available in 2, 4, 6 and 8 foot lengths, uses standard Di-Acro Adjustable Punches and Dies.

Maximum width that can be punched using entire length of die set is 4". Material of any length can be punched when material is no wider than the distance between guides.

CATALOG NUMBER	DIE AREA	SHUT HEIGHT	THICKNESS OF UPPER, LOWER DIE PLATE	DISTANCE BETWEEN GUIDES	COST
ADS 24	5-1/4" x 24"	6-1/2"	1-1/2"	15"	\$295.00
ADS 48	5-1/4" x 48"	6-1/2"	1-1/2"	32"	395.00
ADS 72	5-1/4" x 72"	7-1/4"	1-7/8"	42"	495.00
ADS 96	5-1/4" x 96"	7-1/4"	1-7/8"	52"	595.00

■ STRIPPER SERVICE



RUBBER STRIPPER

Can be used where individual strippers are preferred. Rubber strippers are recommended for use on 3/8" (Series 33) and 5/8" (Series 44) shank punches only. Rubber stripper slips over punch shank, can be easily removed.

Rubber Stripper 3/8" or 5/8" shank (specify one).....\$**.75** each

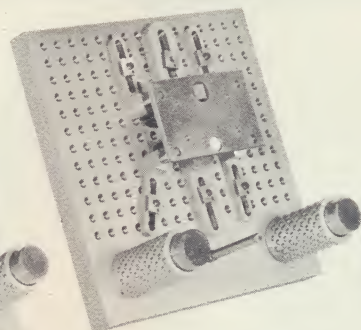


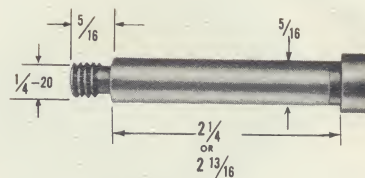
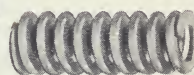
PLATE TYPE STRIPPER

Recommended for use where entire hole pattern is to be covered with one stripper. Permits stripping of punches with extremely close center-to-center distances. Plate type spring strippers (3/8" thick standard) made to your specifications on receipt of flat blueprint.

STRIPPER SPRINGS

For use with either style SB-A or SB-B stripper bolts.

Cost **\$**.75**** each

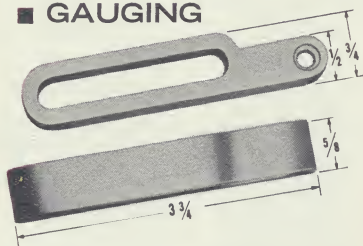


STRIPPER BOLTS

Specify Style SB-A (2 1/4") or SB-B (2 13/16") Cost **\$**.75**** each

BASE CHARGE for plate stripper is \$20.00. Includes stripper plate, holes for stripper bolts, all stripper bolts and springs (as required). Additional \$2.00 for each round hole and \$5.00 for each square or irregular shaped hole as per print.

■ GAUGING



MATERIAL GAUGE HOLDER MGH

On most jobs a minimum of three Material Gauge Holders are required to provide adequate stops. Two gauges are customarily used on back of die and one on the side.

Cost MGH **\$10.00**

SPRING PIN MATERIAL GAUGE SPMG

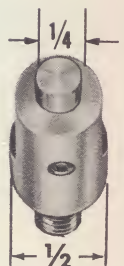
Mounts in Material Gauge Holder. Used for gauging with Spring Stripper to prevent damage where there would be interference between Stripper and Fixed Material Gauge or when multiple gauges are needed for sequence punching.

Cost SPMG **\$7.50**
Cost SPMG with Material Gauge Holder **\$17.50**

FIXED MATERIAL GAUGE FMG

Mounts in Material Gauge Holder and enables proper positioning of material. Available individually or with gauge holder.

Cost FMG **\$2.50**
Cost FMG with Material Gauge Holder **\$12.50**



SPECIAL INTRODUCTORY OFFER ADJUSTABLE PUNCH AND DIE STARTER SETS

Over 30 per cent saving from List Price

Here is a money-saving way to get acquainted with the advantages of Di-Acro Adjustable Punches and Dies. Try one of these special starter sets at a savings to you of more than 30 per cent under the suggested list price. Here's what you get in the starter set:

ADS-16 STARTER SET

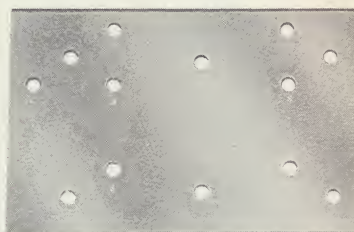
One ADS-16 Style MHA Back Post Ball Bearing Die Set with Crank Operated Adjusting Screw (12" x 15").....	\$245.00
Six Series 33 Punch and Die Holder Sets @ \$24.00 per set.	144.00
Six Series 44 Punch and Die Holder Sets @ \$30.00 per set.	180.00
Twenty-eight Holddown Nuts and Socket Head Cap Screws @ \$.75 per set.....	21.00
One Series 33 and 44 Die Locating Plug.....	6.00
One Series 33 and 44 Punch Locating Pin.....	6.00
Four Fixed Material Gauges with Holders @ \$12.50 ea....	50.00
Six Rubber Strippers for Series 33 Punches (3/8" shank) @ \$.75 ea.	4.50
Six Rubber Strippers for Series 44 Punches (5/8" shank) @ \$.75 ea.	4.50
Six Series 33 Round Punches and Dies (your choice from 1/32" to 3/8") @ \$5.00 ea.....	30.00
Six Series 44 Round Punches and Dies (your choice from 25/64" to 5/8") @ \$6.00 ea.....	36.00
	\$727.00
(F.O.B. Factory)	
ADS-16 SPECIAL STARTER SET — a \$727.00 value.....	\$495.00
(F.O.B. Factory)	

■ TEMPLATE SERVICE

A template is necessary to locate Di-Acro Adjustable Punches and Dies on the die set in the desired pattern. Your own personnel can easily lay out and manufacture templates in your own plant — or Di-Acro can furnish them if you prefer.

Templates will be custom made to your specifications and drilled with 1/4" holes to fit over locating pilot plug pins. Locating pilot plugs are available in four sizes to correspond with the four sizes of die holders.

When requesting templates, it is necessary that you furnish blueprints showing the flat layout of parts to be punched with exact hole locations desired. All hole spacings on templates supplied by manufacturer are guaranteed accurate with $\pm .001"$.



TEMPLATE CHARGE

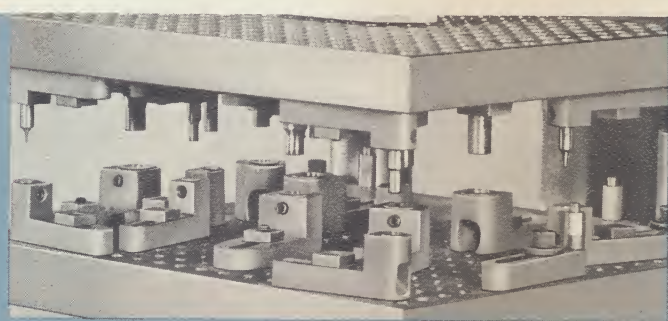
Base charge \$15.00. Includes all holes necessary for location of stripper plate and material gauges. Additional \$2.00 for each punched hole as per print.



TEMPLATE LOCATING PINS TLP

Two template locating pins are required to locate die holders and material gauges in proper position to stripper plate. They are used in setup only and save a considerable amount of time when a job is to be re-run.

Cost TLP **\$2.00** each



OPTIONAL ADS-19 STARTER SET

Optional ball bearing die set has the same Punches and Dies and Fixtures as ADS-16 Starter Set. Optional Die Set has larger work area — 15" x 18".

ADS-19 Special Starter Set — a \$777.00 value.....**\$545.00**
(F.O.B. factory)

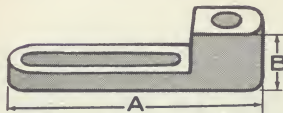
Costs shown are for sets described only — no substitutions.

Punches and Dies in starter set can be supplied according to your selection of round sizes from 1/32" to 5/8". You make the selection of round punches and dies — six sizes from 1/32" to 3/8", six sizes from 25/64" to 5/8". Rubber Strippers will be supplied according to punch sizes selected. You have everything you need to start rolling!

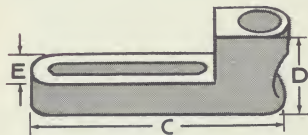
ADJUSTABLE TYPE

CAPACITY
14 Gauge mild steel, 1/8" soft aluminum

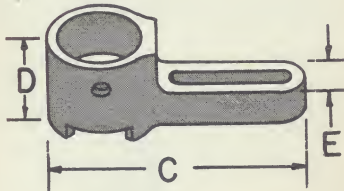
HOLDERS FOR ADJUSTABLE PUNCHES and DIES



PUNCH HOLDER (APH)
Series 33 — 44 — 55 — 66



DIE HOLDER (ADH)
Series 33 — 44 — 55



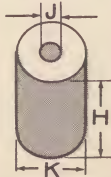
DIE HOLDER (ADH) — Series 66

SERIES 33 — For hole sizes to 3/8 in. round or equivalent irregular shapes. Minimum punch centers 3/4 in.

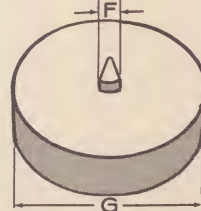
SERIES 44 — For hole sizes to 5/8 in. round or equivalent irregular shapes. Minimum punch centers 1-3/8 in.

SERIES 55 — For hole size to 1 in. round or equivalent irregular shapes. Minimum punch centers 1-3/4 in.

SERIES 66 — For hole sizes to 1-3/4 in. round or equivalent irregular shapes. Minimum punch centers 2-3/4 in.



PUNCH LOCATING PIN (PLP)



DIE LOCATING PLUG (DLP)

Dimensions

Dimension	series 33	series 44	series 55	series 66
A — Length of punch holder	3-3/4"	4-1/8"	4-1/2"	4 1/2"
B — Ht. of punch holder	1"	1"	1"	1"
C — Length of die holder	3-3/4"	4-7/16"	5"	6"
D — Ht. of die holder	1-1/2"	1-1/2"	1-1/2"	1-1/2"
E — Width of die holder	3/4"	1-3/8"	1-3/4"	2-3/4"
F — Diam. of pt. on die loc. Plug	1/4"	1/4"	1/4"	1/4"
G — Diam. of die loc. Plug	5/8"	1"	1-1/2"	2-1/4"
H — Ht. of punch loc. Pin	1-3/4"	2"	2"	2"
J — Hole in punch loc. Pin	1/4"	1/4"	1/4"	1/4"
K — Diam. of punch loc. Pin	3/8"	5/8"	1"	1"

Punch and Die Holder Cost

Item	series 33	series 44	series 55	series 66
Complete Set (APDH)*	\$24.00	\$30.00	\$42.00	\$48.00
Punch Holder (APH)	9.00	12.00	16.00	19.00
Die Holder (ADH)	15.00	18.00	26.00	29.00
Die Locating Plug (DLP)	2.50	3.50	4.50	5.50
Punch Locating Pin (PLP)	2.50	3.50	4.50	4.50

*Includes punch holder and die holder.

Hold down nut and socket head cap screw (5/16" dia.) for Outside Locking Adjustment of die set. Specify MHA or MHB die set. Cost per set \$.75.

Socket head cap screw (3/8") and washer (1/8") for Inside Locking Adjustment of die set. Cost per set \$.50.

Prices on all expendable accessories F.O.B. Lake City, Minnesota, U.S.A. — Subject to change without notice.

Punches marked with an asterisk () will be supplied with a 1-inch diameter shank for use in a series 55 punch holder if these sizes are desired for punching materials heavier than 16 gauge mild steel. Please notate order accordingly

ROUNDS

Capacity, 14 gauge mild steel

SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST
SERIES 33				SERIES 55			
Drill Nos. 1 to 66	AP-33 2.25	AD-33 2.75	5.00	41/64 21/32 43/64 11/16 45/64	AP-55 3.75	AD-55 4.25	8.00
1/32 3/64 1/16 5/64 3/32	AP-33 2.25	AD-33 2.75	5.00	23/32 47/64 3/4 49/64 25/32	AP-55 3.75	AD-55 4.25	8.00
7/64 1/8 9/64 5/32 11/64	AP-33 2.25	AD-33 2.75	5.00	51/64 13/16 53/64 27/32 55/64	AP-55 3.75	AD-55 4.25	8.00
3/16 13/64 7/32 15/64 1/4	AP-33 2.25	AD-33 2.75	5.00	7/8 57/64 29/32 59/64 15/16	AP-55 3.75	AD-55 4.25	8.00
17/64 9/32 19/64 5/16	AP-33 2.25	AD-33 2.75	5.00	61/64 31/32 63/64 1	AP-55 3.75	AD-55 4.25	8.00
21/64 11/32 23/64 3/8	AP-33 2.25	AD-33 2.75	5.00	SERIES 66			
SERIES 44				1-1/32 1-1/16 1-3/32 1-1/8 1-5/32	AP-66 5.50	AD-66 7.50	13.00
25/64 13/32 27/64 7/16 29/64	AP-44 2.75	AD-44 3.25	6.00	1-3/16 1-7/32 1-1/4 1-9/32 1-5/16	AP-66 5.50	AD-66 7.50	13.00
15/32 31/64 1/2 33/64* 17/32* 35/64*	AP-44 2.75	AD-44 3.25	6.00	1-11/32 1-3/8 1-13/32 1-7/16	AP-66 5.50	AD-66 7.50	13.00
9/16* 37/64* 19/32* 39/64* 5/8*	AP-44 2.75	AD-44 3.25	6.00	1-15/32 1-1/2 1-17/32 1-9/16 1-19/32	AP-66 6.50	AD-66 7.50	14.00
				1-5/8 1-21/32 1-11/16 1-23/32 1-3/4	AP-66 6.50	AD-66 7.50	14.00
SQUARE				Capacity, 14 gauge mild steel			
SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST
SERIES 33				SERIES 55 (continued)			
1/16 3/32 1/8 5/32 3/16 7/32 1/4	AP-33 9.50	AD-33 10.50	20.00	19/32 5/8 21/32 11/16	AP-55 12.00	AD-55 13.00	25.00
SERIES 44				SERIES 66			
9/32 5/16 11/32* 3/8 13/32 7/16*	AP-44 9.50	AD-44 10.50	20.00	23/32 3/4 25/32 13/16	AP-66 14.00	AD-66 16.00	30.00
SERIES 55				27/32 7/8 29/32 15/16 31/32 1 1-1/16 1-1/8 1-3/16	AP-66 14.00	AD-66 16.00	30.00
15/32 1/2 17/32 9/16	AP-55 12.00	AD-55 13.00	25.00				

SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST
■ SERIES 33				■ SERIES 55 (continued)				■ SERIES 33				■ SERIES 55 (continued)			
1/16 x 1/8 1/16 x 3/16 1/16 x 1/4 1/16 x 5/16 3/32 x 1/8	AP-33 9.50	AD-33 10.50	20.00	7/32 x 9/16 7/32 x 5/8 7/32 x 3/4 7/32 x 7/8 1/4 x 9/16	AP-55 12.00	AD-55 13.00	25.00	1/16 x 1/8 1/16 x 3/16 1/16 x 1/4 1/16 x 5/16 3/32 x 3/16	AP-33 9.50	AD-33 10.50	20.00	7/32 x 9/16 7/32 x 5/8 7/32 x 3/4 7/32 x 7/8 1/4 x 9/16	AP-55 12.00	AD-55 13.00	25.00
3/32 x 3/16 3/32 x 1/4 3/32 x 5/16 1/8 x 3/16	AP-33 9.50	AD-33 10.50	20.00	1/4 x 5/8 1/4 x 3/4 1/4 x 7/8 9/32 x 9/16 9/32 x 5/8	AP-55 12.00	AD-55 13.00	25.00	3/32 x 1/4 3/32 x 5/16 1/8 x 3/16 1/8 x 1/4 1/8 x 5/16	AP-33 9.50	AD-33 10.50	20.00	1/4 x 5/8 1/4 x 3/4 1/4 x 7/8 9/32 x 9/16 9/32 x 5/8	AP-55 12.00	AD-55 13.00	25.00
1/8 x 1/4 1/8 x 5/16 5/32 x 3/16 5/32 x 1/4	AP-33 9.50	AD-33 10.50	20.00	9/32 x 3/4 9/32 x 7/8 5/16 x 9/16 5/16 x 5/8 5/16 x 3/4	AP-55 12.00	AD-55 13.00	25.00	5/32 x 1/4 5/32 x 5/16 3/16 x 1/4 3/16 x 5/16	AP-33 9.50	AD-33 10.50	20.00	9/32 x 3/4 9/32 x 7/8 5/16 x 9/16 5/16 x 5/8 5/16 x 3/4	AP-55 12.00	AD-55 13.00	25.00
5/32 x 5/16 3/16 x 1/4 3/16 x 5/16 7/32 x 1/4	AP-33 9.50	AD-33 10.50	20.00	5/16 x 7/8 11/32 x 9/16 11/32 x 5/8 11/32 x 3/4 11/32 x 7/8	AP-55 12.00	AD-55 13.00	25.00	■ SERIES 44				5/16 x 7/8 11/32 x 9/16 11/32 x 5/8 11/32 x 3/4 11/32 x 7/8	AP-55 12.00	AD-55 13.00	25.00
■ SERIES 44				3/8 x 9/16 3/8 x 5/8 3/8 x 3/4 3/8 x 7/8 13/32 x 1/2	AP-55 12.00	AD-55 13.00	25.00	1/16 x 3/8 1/16 x 7/16 1/16 x 1/2 3/32 x 3/8 3/32 x 7/16	AP-44 9.50	AD-44 10.50	20.00	3/8 x 9/16 3/8 x 5/8 3/8 x 3/4 3/8 x 7/8 13/32 x 1/2	AP-55 12.00	AD-55 13.00	25.00
1/16 x 3/8 1/16 x 7/16 1/16 x 1/2 3/32 x 3/8 3/32 x 7/16	AP-44 9.50	AD-44 10.50	20.00	13/32 x 9/16 13/32 x 5/8 13/32 x 3/4 13/32 x 7/8 7/16 x 1/2	AP-55 12.00	AD-55 13.00	25.00	3/32 x 1/2 1/8 x 3/8 1/8 x 7/16 1/8 x 1/2 5/32 x 3/8	AP-44 9.50	AD-44 10.50	20.00	13/32 x 9/16 13/32 x 5/8 13/32 x 3/4 13/32 x 7/8 7/16 x 1/2	AP-55 12.00	AD-55 13.00	25.00
3/32 x 1/2 1/8 x 3/8 1/8 x 7/16 1/8 x 1/2 5/32 x 3/8	AP-44 9.50	AD-44 10.50	20.00	7/16 x 9/16 7/16 x 5/8 7/16 x 3/4 7/16 x 7/8 15/32 x 1/2 15/32 x 9/16	AP-55 12.00	AD-55 13.00	25.00	5/32 x 7/16 5/32 x 1/2 3/16 x 3/8 3/16 x 7/16 3/16 x 1/2	AP-44 9.50	AD-44 10.50	20.00	7/16 x 9/16 7/16 x 5/8 7/16 x 3/4 7/16 x 7/8 15/32 x 9/16	AP-55 12.00	AD-55 13.00	25.00
5/32 x 7/16 5/32 x 1/2 3/16 x 3/8 3/16 x 7/16 3/16 x 1/2	AP-44 9.50	AD-44 10.50	20.00	15/32 x 5/8 15/32 x 3/4 15/32 x 7/8 1/2 x 9/16 1/2 x 5/8 1/2 x 3/4	AP-55 12.00	AD-55 13.00	25.00	7/32 x 5/16 7/32 x 3/8 7/32 x 7/16 7/32 x 1/2 1/4 x 5/16	AP-44 9.50	AD-44 10.50	20.00	15/32 x 5/8 15/32 x 3/4 15/32 x 7/8 1/2 x 9/16 1/2 x 5/8 1/2 x 3/4	AP-55 12.00	AD-55 13.00	25.00
7/32 x 5/16 7/32 x 3/8 7/32 x 7/16 7/32 x 1/2 1/4 x 5/16	AP-44 9.50	AD-44 10.50	20.00	■ SERIES 66				1/4 x 3/8 1/4 x 7/16 1/4 x 1/2 9/32 x 5/16 9/32 x 3/8	AP-44 9.50	AD-44 10.50	20.00	■ SERIES 66			
1/4 x 3/8 1/4 x 7/16 1/4 x 1/2 9/32 x 5/16 9/32 x 3/8	AP-44 9.50	AD-44 10.50	20.00	1/8 x 1 1/8 x 1-1/2 5/32 x 1 3/16 x 1 7/32 x 1	AP-66 14.00	AD-66 16.00	30.00	9/32 x 1/2 5/16 x 3/8 5/16 x 7/16 5/16 x 1/2	AP-44 9.50	AD-44 10.50	20.00	1/8 x 1 1/8 x 1-1/2 5/32 x 1 3/16 x 1 7/32 x 1	AP-66 14.00	AD-66 16.00	30.00
9/32 x 7/16 9/32 x 1/2* 5/16 x 3/8 5/16 x 7/16 5/16 x 1/2* 11/32 x 3/8	AP-44 9.50	AD-44 10.50	20.00	1/4 x 1 1/4 x 1-1/2 9/32 x 1 5/16 x 1 11/32 x 1	AP-66 14.00	AD-66 16.00	30.00	11/32 x 7/16 11/32 x 1/2 3/8 x 7/16 3/8 x 1/2	AP-44 9.50	AD-44 10.50	20.00	1/4 x 1 1/4 x 1-1/2 9/32 x 1 5/16 x 1 11/32 x 1	AP-66 14.00	AD-66 16.00	30.00
11/32 x 7/16* 11/32 x 1/2* 3/8 x 7/16* 3/8 x 1/2* 13/32 x 7/16*	AP-44 9.50	AD-44 10.50	20.00	3/8 x 1 3/8 x 1-1/2 13/32 x 1 7/16 x 1 15/32 x 1	AP-66 14.00	AD-66 16.00	30.00	■ SERIES 55				3/8 x 1 3/8 x 1-1/2 13/32 x 1 7/16 x 1 15/32 x 1	AP-66 14.00	AD-66 16.00	30.00
■ SERIES 55				1/2 x 7/8 1/2 x 1 1/2 x 1-1/2 5/8 x 1 5/8 x 1-1/2	AP-66 14.00	AD-66 16.00	30.00	1/8 x 9/16 1/8 x 5/8 1/8 x 3/4 1/8 x 7/8	AP-55 12.00	AD-55 13.00	25.00	1/2 x 7/8 1/2 x 1 1/2 x 1-1/2 5/8 x 1	AP-66 14.00	AD-66 16.00	30.00
1/8 x 9/16 1/8 x 5/8 1/8 x 3/4 1/8 x 7/8 5/32 x 9/16 5/32 x 5/8	AP-55 12.00	AD-55 13.00	25.00	3/4 x 1 3/4 x 1-1/2 7/8 x 1 7/8 x 1-1/2	AP-66 14.00	AD-66 16.00	30.00	5/32 x 9/16 5/32 x 5/8 5/32 x 3/4 5/32 x 7/8	AP-55 12.00	AD-55 13.00	25.00	5/8 x 1-1/2 3/4 x 1 3/4 x 1-1/2 7/8 x 1 7/8 x 1-1/2	AP-66 14.00	AD-66 16.00	30.00
5/32 x 3/4 5/32 x 7/8 3/16 x 9/16 3/16 x 5/8 3/16 x 3/4 3/16 x 7/8	AP-55 12.00	AD-55 13.00	25.00					3/16 x 9/16 3/16 x 5/8 3/16 x 3/4 3/16 x 7/8	AP-55 12.00	AD-55 13.00	25.00				

Overall dimensions of all punches and dies are the same as those illustrated in rounds (at right).

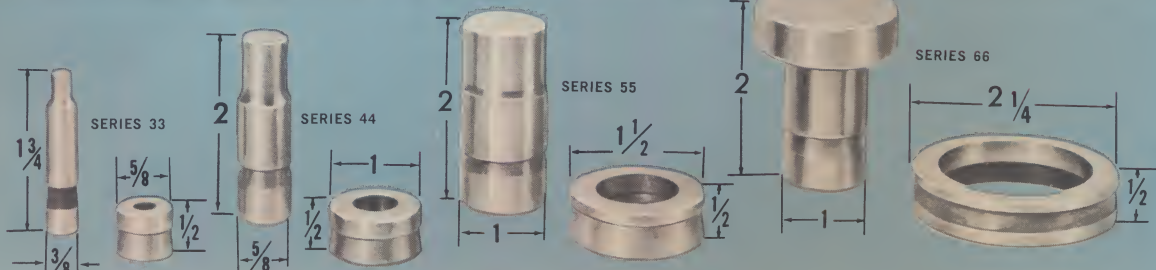
CLEARANCE

Standard total clearance is .007"-.008" on all sets.

Round punches and dies will be supplied in increments of .001" upon request at no extra charge.

Square and irregular shaped punches and dies — if special clearance is desired (other than .007" or .008") specify, add \$7.50 per set, if special sizes (between those listed) is desired add \$15.00 to cost of nearest set, specify clearance if other than .007"-.008".

■ ADJUSTABLE PUNCHES AND DIES — dimension data



NOTE: Adjustable punches and dies are not interchangeable with punches and dies offered in standard single station program.

For special purpose punches and dies see page 34

■ DI-ACRO LAYOUT MACHINES

Here's a fast, low cost method for accurate layout of both sheet and plate materials. Compact, easy to use, Di-Acro Lokator Layout Machine is accurate to $\pm .005"$. Time consuming layout is cut in half because most of the separate steps required in hand layout—the individual use of a square, scribe, scale, punch and hammer are eliminated.

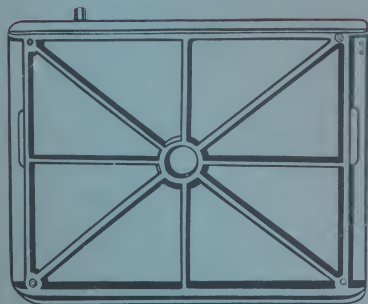
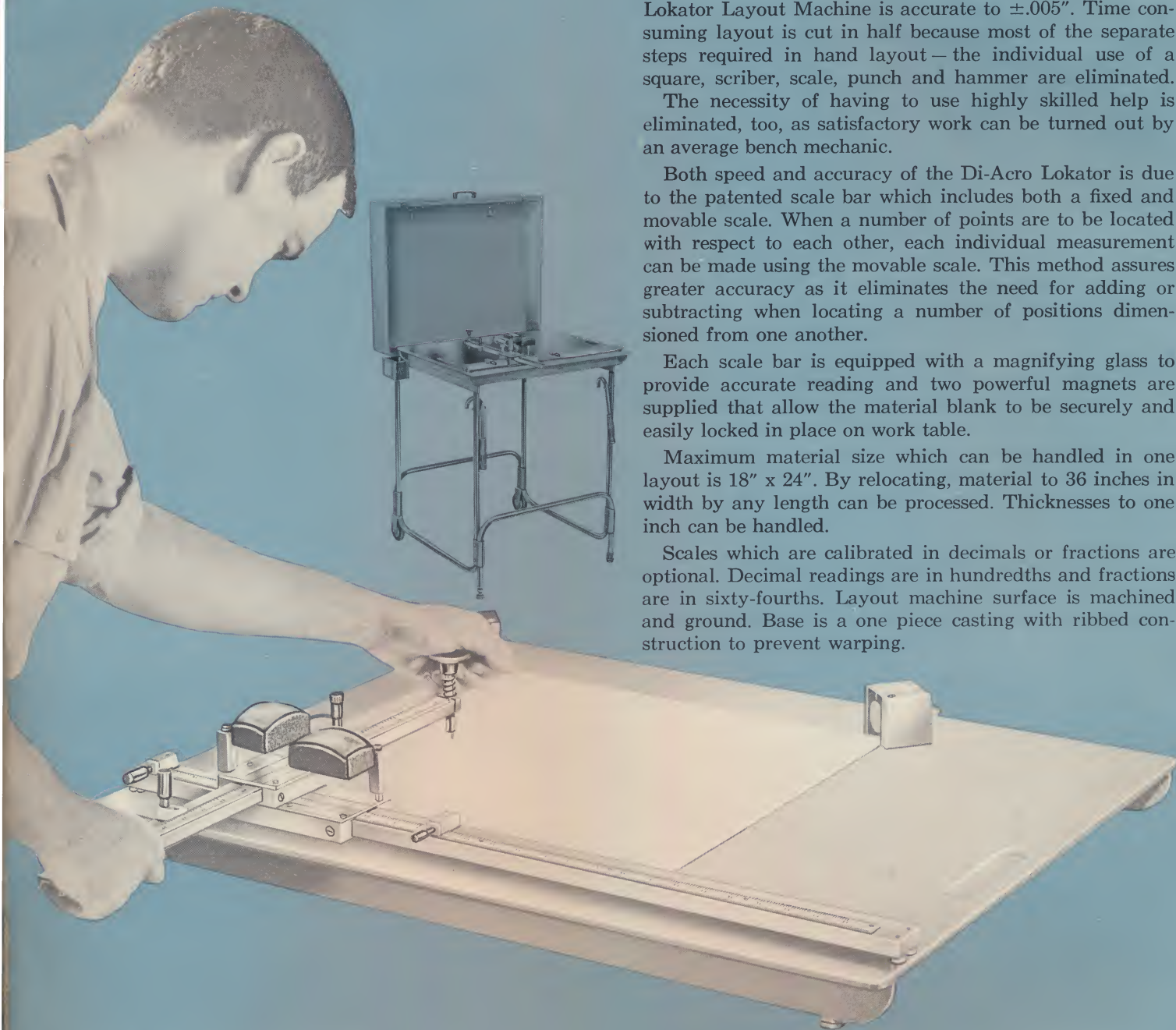
The necessity of having to use highly skilled help is eliminated, too, as satisfactory work can be turned out by an average bench mechanic.

Both speed and accuracy of the Di-Acro Lokator is due to the patented scale bar which includes both a fixed and movable scale. When a number of points are to be located with respect to each other, each individual measurement can be made using the movable scale. This method assures greater accuracy as it eliminates the need for adding or subtracting when locating a number of positions dimensioned from one another.

Each scale bar is equipped with a magnifying glass to provide accurate reading and two powerful magnets are supplied that allow the material blank to be securely and easily locked in place on work table.

Maximum material size which can be handled in one layout is 18" x 24". By relocating, material to 36 inches in width by any length can be processed. Thicknesses to one inch can be handled.

Scales which are calibrated in decimals or fractions are optional. Decimal readings are in hundredths and fractions are in sixty-fourths. Layout machine surface is machined and ground. Base is a one piece casting with ribbed construction to prevent warping.



Base of layout machine in one piece casting with ribbed construction to prevent warping.

STANDARD EQUIPMENT INCLUDES—two lights for easy scale reading, two Magnetic Holders with off-on switches that hold template blank (work piece) to the base of the layout machine. Scale magnifiers, and choice of Scale A, B or C.

Model A—Scale in increments of $1/64"$ reading from zero at the base line from the left side and bottom.

Model B—Scale in increments of $1/64"$ reading from zero at the center of the sheet.

Model C—Scale in increments of $.01"$ reading from zero at the base line from the left side and bottom.

Scales in increments listed above are available as shown on all models. Additional scales available on special quotation. Write giving details.

Magnets extra if ordered separately . . . Pair \$ 48.00

Di-Acro Lokator Layout Machine complete with standard equipment Model 1A, 1B, 1C, each \$445.00

Di-Acro Lokator Layout Machine complete with standard equipment and including portable floor stand, Model 2A, 2B, 2C, each \$495.00

Di-Acro Lokator Layout Machine complete with standard and portable floor stand and hood, Model 3A, 3B, 3C, each \$520.00



QUOTATION SHEET NO. 65B

EFFECTIVE SEPT. 1, 1966

Quotation Sheet No. 65B Supercedes All Previous Di-Acro Price Information

Prices on All Di-Acro Press Brake Dies and Accessories other than shown in this quotation sheet are as listed in the No. 65 Complete Line Catalog. All Prices F.O.B. Lake City, Minn.

DI-ACRO PRESS BRAKES

No. 16-24, hand	\$ 575.00
Stand	\$70.00
No. 16-36, power	1,895.00
No. 18-48, power	2,150.00
No. 14-48-1, power	2,650.00
No. 14-48-2, power	3,250.00
No. 16-72, power	4,235.00
No. 18-96, power	4,450.00
No. 14-72, power	4,950.00
No. 16-96, power	5,150.00

DI-ACRO SHEARS

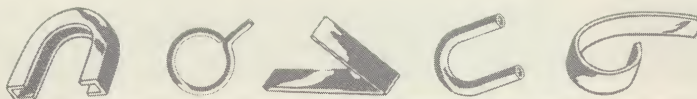
No. 1, hand	\$ 175.00
Stand \$60.00, alloy steel blades \$15.00 set, hi-carbon hi-chrome blades \$30.00 set — extra when installed in place of alloy steel blades \$15.00.	
No. 3, hand	375.00
Stand \$65.00, alloy steel blades \$27.50 set, hi-carbon hi-chrome blades \$50.00 set — extra when installed in place of alloy steel blades \$22.50.	
No. 4, hand	495.00
Stand \$70.00, alloy steel blades \$45.00 set, hi-carbon hi-chrome blades \$85.00 set — extra when installed in place of alloy steel blades \$40.00.	
No. 36, hand	575.00
Stand \$75.00, alloy steel blades \$65.00 set, hi-carbon hi-chrome blades \$120.00 set — extra when installed in place of alloy steel blades \$55.00.	

No. 36K, foot.....	\$ 695.00
Alloy steel blades \$65.00 set, hi-carbon hi-chrome blades \$120.00 set — extra when installed in place of alloy steel blades \$55.00.	
No. 24, Std. Power	1,350.00
Alloy steel blades \$45.00 set, hi-carbon hi-chrome blades \$85.00 set — extra when installed in place of alloy steel blades \$40.00.	
No. 24, Vari-O-Power	1,550.00
Alloy steel blades \$45.00 set, hi-carbon hi-chrome blades \$85.00 set — extra when installed in place of alloy steel blades \$40.00.	
No. 36P, Power	1,595.00
Alloy steel blades \$65.00 set, hi-carbon hi-chrome blades \$120.00 — extra when installed in place of alloy steel blades \$55.00.	
No. 48P, Power	2,950.00

DI-ACRO BENDERS

No. 1, hand	\$ 105.00
Stand \$60.00; Quik-Lok Clamp \$45.00	
No. 1A, hand	185.00
Stand \$60.00; Quik-Lok Clamp \$50.00	
No. 2, hand	245.00
Stand \$60.00; Quik-Lok Clamp \$75.00	
No. 3, hand	345.00
Stand \$60.00; Quik-Lok Clamp \$75.00	
No. 4, hand	495.00
Stand \$60.00; Quik-Lok Clamp \$85.00	
No. 6, power	2,690.00
No. 8 mounting plate set up.....	305.00
No. 8, power	2,630.00
No. 6 mounting plate set up.....	365.00

See Back Page For Additional Machine Listings.



STANDARD RADIUS ACCESSORIES

The accessories illustrated and listed below are used for bending round, flat, square, hexagon and all other solid materials. These parts are properly hardened to withstand forming pressure and are precision ground for extreme accuracy. They are also available unhardened so they can be further processed by the user for bending materials which must be confined or supported during the bending operation, no extra charge.

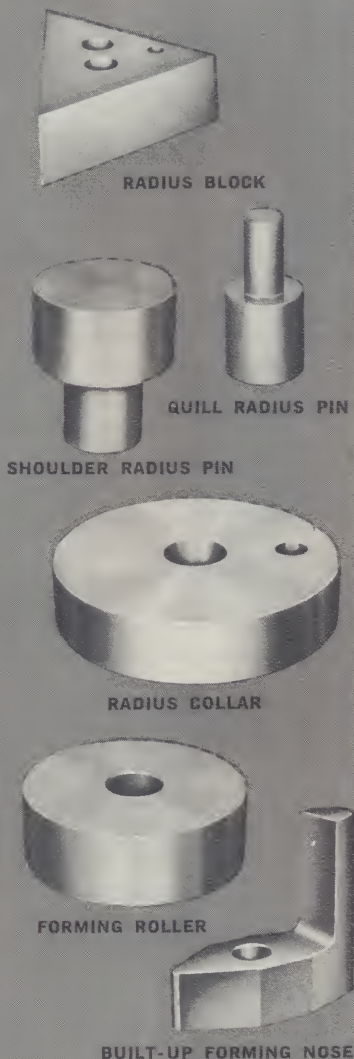
When ordering accessories for Benders, state model of Bender and radius desired.

Spring-back — when determining the size of the Radius Pin or Collar, spring-back due to elasticity in the material to be formed should be compensated for. A frequent way is by overbending slightly beyond the required angle. After the amount of spring-back has been determined, the

Angle Gauge can be set so that all bends will be duplicated. In addition to overbending, it may be necessary in some cases to form the material around a Radius Pin or Radius Collar of smaller radius than the desired bend. The actual size of the Radius Pin or Collar can best be determined by experiment for the material and conditions.

FORMING ROLLER — To eliminate work marking and reduce operator effort, it is often desirable to replace the Forming Nose, furnished as standard equipment, with a Forming Roller.

BUILT-UP FORMING NOSE — This is used to increase the material width range of Di-Acro Benders. Must be used with wider or stacked radius collars.



Inches Radius	Di-Acro Benders			
	No. 1	No. 1A	No. 2	Nos. 3, 4, 6, 8
■ RADIUS BLOCK				
Zero	\$5.00	\$ 7.00	\$10.00	\$14.00
1/32	9.00	12.00	—	—
1/16	9.00	12.00	17.00	22.00
3/32	9.00	12.00	—	—
1/8	—	—	17.00	22.00
3/16	—	—	17.00	22.00
1/4	—	—	—	22.00
■ QUILL RADIUS PIN				
1/16	3.00	3.50	—	—
3/32	3.00	—	—	—
1/8	3.00	3.50	4.00	4.50
5/32	3.00	—	—	—
3/16	.75*	3.50	4.00	4.50
1/4	—	1.00*	4.00	4.50
5/16	—	—	4.00	4.50
3/8	—	—	4.00	4.50
7/16	—	—	4.00	4.50
1/2	—	—	1.50*	1.75*
■ SHOULDER RADIUS PIN				
7/32	3.50	—	—	—
1/4	3.50	—	—	—
5/16	3.50	4.00	—	—
3/8	3.50	4.00	—	—
7/16	3.50	4.00	—	—
1/2	—	4.00	—	—
9/16	—	4.00	4.50	6.00
5/8	—	4.00	4.50	6.00
11/16	—	—	4.50	6.00
3/4	—	—	4.50	6.00
13/16	—	—	4.50	6.00
7/8	—	—	4.50	6.00
■ FORMING ROLLER				
	1-1/4 in. Dia. 4.00	1-1/2 in. Dia. 5.00	3 in. Dia. 9.00	3 in. Dia. 12.00
■ BUILT-UP FORMING NOSE				
	1 in. Height 6.00	2 in. Height 9.00	3 in. Height 15.00	4 in. Height 20.00

Inches Radius	Di-Acro Benders			
	No. 1	No. 1A	No. 2	Nos. 3, 4, 6, 8
■ RADIUS COLLAR				
1/2	\$3.50	—	—	—
9/16	3.50	—	—	—
5/8	3.50	—	—	—
11/16	3.50	\$ 4.50	—	—
3/4	3.50	4.50	—	—
13/16	4.00	4.50	—	—
7/8	4.00	4.50	—	—
15/16	4.00	4.50	\$ 6.00	\$ 8.00
1	4.00	5.00	6.00	8.00
1- 1/16	—	5.00	6.00	8.00
1- 1/8	—	5.00	7.00	8.00
1- 3/16	—	5.00	7.00	8.00
1- 1/4	—	5.50	7.00	9.00
1- 5/16	—	5.50	7.00	9.00
1- 3/8	—	5.50	8.00	9.00
1- 7/16	—	5.50	8.00	9.00
1- 1/2	—	6.00	8.00	10.00
1- 9/16	—	6.00	8.00	10.00
1- 5/8	—	6.00	9.00	10.00
1-11/16	—	6.00	9.00	10.00
1- 3/4	—	7.00	9.00	11.00
1-13/16	—	7.00	9.00	11.00
1- 7/8	—	7.00	10.00	11.00
1-15/16	—	7.00	10.00	11.00
2	—	7.00	10.00	12.00
2- 1/8	—	—	—	12.00
2- 1/4	—	—	—	13.00
2- 3/8	—	—	—	14.00
2- 1/2	—	—	—	14.00
2- 5/8	—	—	—	15.00
2- 3/4	—	—	—	15.00
2- 7/8	—	—	—	16.00
3	—	—	—	17.00

*Supplied as Standard with Machine

NOTE: For special in-between sizes, add \$2.00 to the accessories in the first column, \$3.00 in second column, \$4.00 in third column and \$5.00 in the fourth column. Order by radius and Bender number only.

Remember — Radius = 1/2 diameter.

All quotations net — F.O.B. Lake City, Minn. Subject to change without notice.

TUBE FORMING ACCESSORIES

There are two tube bending methods:

1. The "Forming Roller" method is recommended for (a) all large bends where centerline radius is at least 4 times the outside diameter (O.D.) of the tube, (b) pipe and heavy wall tubing, (c) very small diameter tubing.
2. The "Follow Block" method, which allows forming thin wall tubing to a centerline radius as small as 2-1/2 times the O.D. without using inside mandrels or fillers.

Guard against spring-back (see page 6). To prevent the tube slipping during forming, the Quik-Lok Clamp is recommended, used with Type A Radius Collar. For locking smaller size tubing the Clevis and Swivel Clamps with Type B Radius Collars are used on No. 1 and No. 1A Benders.

When ordering special sizes between those listed below, use closest size and add the following to cost of Radius Collar: No. 1 Bender — \$4.00, No. 1A — \$6.00, No. 2 — \$8.00, No. 3 — \$10.00, No. 4 — \$10.00. For sizes exceeding the maximum radius or tube size listed, write for special quotation.

Parts Required for "Forming Roller" Bending Method

See illustrations below for part numbers.

A or B — Grooved Radius Collar — one for every radius for each tube size.

J — Grooved "Forming Roller" — one for each tube size only.

P — Clamp Block — for use with Quik-Lok Clamp on all Di-Acro Benders. One for each tube size.

S or R — Swivel and Clevis Clamps — for No. 1 and No. 1A Benders. One for each tube size.

Parts Required for "Follow Block" Bending Method

See illustrations below for parts numbers.

A or B — Grooved Radius Collar — one for every radius for each tube size.

T — Forming Roller — one covers all "Follow Block" operations.

N — Follow Block — one for each tube size only. Length listed will accommodate a 180° bend.

P — Clamp Block — for use with Quik-Lok Clamp on all Di-Acro Benders. One for each tube size.

S or R — Swivel and Clevis Clamps — for No. 1 and No. 1A Benders. One for each tube size.

QUIK-LOK CLAMP



(A) GROOVED RADIUS COLLAR FOR USE WITH QUIK-LOK



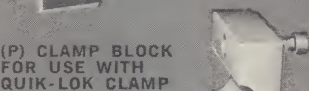
(R) CLEVIS CLAMP FOR NO. 1 AND 1A BENDERS ONLY



(B) GROOVED RADIUS COLLAR FOR USE WITH SWIVEL OR CLEVIS ON NO. 1 AND 1A BENDERS ONLY



(S) SWIVEL CLAMP FOR NO. 1 AND 1A BENDERS ONLY



(P) CLAMP BLOCK FOR USE WITH QUIK-LOK CLAMP



(N) FOLLOW BLOCK



(J) GROOVED FORMING ROLLER



(T) FORMING ROLLER

Tube Dia.	A or B Radius Collar *C/L Rad.	N Follow Block	J Grooved Forming Roller	P, S, R Clamp Blocks Swivel or Clevis	T Forming Roller
BENDER No. 1, Maximum Radius Capacity 2 inches					
1/8"	3/8"—\$ 5.00	3"—\$ 4.50	\$ 7.00	\$ 3.50	\$ 4.00
	3/4"— 6.00	3"— 4.50			
	1 "— 7.00	6"— 7.50			
3/16"	1/2"— 6.00	3"— 4.50	7.00	3.50	4.00
	3/4"— 7.00	3"— 4.50			
	1 "— 8.00	6"— 7.50			
1/4"	5/8"— 7.50	3"— 4.50	7.00	3.50	4.00
	1 "— 8.50	6"— 7.50			
	1-1/4"— 9.50	6"— 7.50			
5/16"	3/4"— 8.50	3"— 4.50	7.00	3.50	4.00
	1 "— 9.50	6"— 7.50			
	1-1/4"— 10.50	6"— 7.50			
3/8"	1 "— 9.50	6"— 7.50	7.00	3.50	4.00
	1-1/4"— 10.50	6"— 7.50			
	BENDER No. 2, Maximum Radius Capacity 9 inches				
3/8"	1 "— 14.00	6"— 9.50	15.00	4.00	9.00
	2 "— 19.50	9"— 12.00			
	3 "— 25.00	12"— 15.00			
7/16"	1-1/8"— 18.00	6"— 9.50	15.00	4.00	9.00
	2 "— 22.00	9"— 12.00			
	3 "— 25.00	12"— 15.00			
1/2"	1-1/4"— 20.50	6"— 9.50	15.00	4.00	9.00
	2 "— 25.00	9"— 12.00			
	3 "— 30.00	12"— 15.00			
5/8"	1-3/4"— 24.00	6"— 9.50	15.00	4.00	9.00
	3 "— 33.00	12"— 15.00			
	4 "— 42.00	15"— 18.00			
3/4"	2 "— 27.50	9"— 12.00	15.00	4.00	9.00
	3 "— 36.00	12"— 15.00			
	4 "— 44.00	15"— 18.00			
1-1/4" I.P.S.	1-1/2"— 27.50	6"— 9.50	15.00	4.00	9.00
	2 "— 32.00	9"— 12.00			
	3 "— 44.00	12"— 15.00			
3/8" I.P.S.	1-3/4"— 32.00	6"— 9.50	15.00	4.00	9.00
	3 "— 44.00	12"— 19.00			
	4 "— 58.00	15"— 22.50			

NOTES: Quik-Lok Clamps with one Clamp Block for Benders No. 1, \$45.00; No. 1A, \$50.00; No. 2, \$75.00; No. 3, \$75.00; No. 4, \$85.00.

*When ordering Radius Collar A for use with Quik-Lok Clamp add \$3.00 for Bender No. 1; \$5.00 for Bender No. 1A. All Radius Collars listed in table above for Benders No. 1 and 1A are Type B for use with swivel or clevis.

All quotations net — F.O.B. Lake City, Minn. Subject to change without notice.

Tube Dia.	A or B Radius Collar *C/L Rad.	N Follow Block	J Grooved Forming Roller	P, S, R Clamp Blocks Swivel or Clevis	T Forming Roller
BENDER No. 1A, Maximum Radius Capacity 6 Inches					
1/4"	5/8"—\$ 6.50	3"—\$ 5.00	\$ 8.00	\$ 3.50	\$ 5.00
	1 "— 7.50	6"— 7.50			
	1-1/2"— 8.50	6"— 7.50			
5/16"	3/4"— 7.50	3"— 5.00	8.00	3.50	5.00
	1 "— 8.50	6"— 7.50			
	1-1/2"— 9.50	6"— 7.50			
3/8"	1 "— 8.50	6"— 7.50	8.00	3.50	5.00
	2 "— 11.00	6"— 7.50			
	3 "— 15.00	6"— 7.50			
7/16"	1-1/4"— 9.50	6"— 7.50	8.00	3.50	5.00
	2 "— 12.00	6"— 7.50			
	3 "— 16.00	6"— 7.50			
1/2"	1-1/4"— 10.50	6"— 7.50	8.00	3.50	5.00
	2 "— 13.50	6"— 7.50			
	3 "— 17.50	6"— 7.50			
BENDERS Nos. 3 & 4, and POWER BENDERS Nos. 6 & 8					
1/2"	1-1/4"— 21.50	6"— 11.00	18.00	5.00	12.00
	2 "— 28.00	9"— 15.00			
	3 "— 35.00	12"— 19.00			
5/8"	1-3/4"— 26.50	6"— 11.00	18.00	5.00	12.00
	3 "— 39.00	12"— 19.00			
	4 "— 52.00	15"— 23.00			
3/4"	2 "— 31.00	9"— 15.00	18.00	5.00	12.00
	3 "— 41.00	12"— 19.00			
	4 "— 50.00	15"— 23.00			
7/8"	2-1/2"— 36.00	9"— 15.00	18.00	5.00	12.00
	4 "— 52.50	15"— 23.00			
	6 "— 75.00	21"— 30.00			
1"	3 "— 41.00	12"— 19.00	18.00	5.00	12.00
	4 "— 55.00	15"— 23.00			
	6 "— 77.00	21"— 30.00			
1-1/8"	3 "— 44.00	12"— 19.00	18.00	5.00	12.00
	4 "— 60.00	15"— 23.00			
	6 "— 80.00	21"— 30.00			
1-1/4"	4 "— 66.00	15"— 23.00	18.00	5.00	12.00
	5 "— 77.00	18"— 27.00			
	6 "— 82.00	21"— 30.00			
1/4" I.P.S.	1-1/2"— 27.50	6"— 11.00	18.00	5.00	12.00
	2 "— 32.00	9"— 15.00			
	3 "— 44.00	12"— 19.00			
3/8" I.P.S.	1-3/4"— 32.00	6"— 11.00	18.00	5.00	12.00
	3 "— 44.00	12"— 19.00			
	4 "— 58.00	15"— 23.00			
1/2" I.P.S.	2-1/2"— 42.00	9"— 15.00	18.00	5.00	12.00
	4 "— 60.00	15"— 23.00			
	6 "— 82.00	21"— 30.00			
3/4" I.P.S.	3 "— 44.00	12"— 19.00	18.00	5.00	12.00
	4 "— 60.00	15"— 23.00			
	6 "— 80.00	21"— 30.00			
1" I.P.S.	4 "— 66.00	15"— 23.00	18.00	5.00	12.00
	5 "— 77.00	18"— 27.00			
	6 "— 82.00	21"— 30.00			

PUNCH AND DIE QUOTATION SHEET NO. 65P-D

EFFECTIVE SEPTEMBER 1, 1966

Prices shown in this quotation sheet supersede
all previous price information on:

Di-Acro punch presses
Di-Acro single station punches and dies
Di-Acro turret punches and dies
Di-Acro adjustable punches and dies

All prices F.O.B. Lake City, Minn.

DI-ACRO PUNCH PRESSES

No. 1, hand.....	\$ 235.00
Stand \$60.00	
No. 2, hand.....	325.00
Stand \$65.00	
Horn, hand.....	150.00
Stand \$65.00	
No. 5, power.....	609.00
No. 12, hand.....	795.00
Stand \$60.00	
No. 18, hand.....	1,095.00
Stand \$75.00	
No. 18, power.....	1,995.00
No. 18H Stylus, power.....	5,450.00
No. 18E Stylus, power.....	6,450.00



DI-ACRO

A DIVISION OF
HOUDAILLE INDUSTRIES, INC.
LAKE CITY, MINNESOTA 55041

di-acro

PRECISION
PUNCHES
AND DIES

SINGLE STATION TYPE

■ Single Station precision punches and dies with adapters to fit all punch presses

■ Shipment within 24 hrs. on most sizes

FEATURES INCLUDE:

Concentricity — Punches and dies are made with high degree of concentricity to assure accurate alignment and rapid changeover in event replacement must be made.

Centering Point — A concentric ground centering point is provided on all perforating punches for the accurate location of holes when using punches 1/8 in. and up for precision layout work.

Twin Shear — All punches requiring more than 4 tons to punch 16 gauge mild steel (13/16" and larger round or equivalent irregular size) are ground with a twin shear which reduces necessary power about 50 per cent. Punches 13/16" or larger are also available at no extra cost without twin shear but this must be specified on order.

Clearance — Standard clearance is .007"-.008".

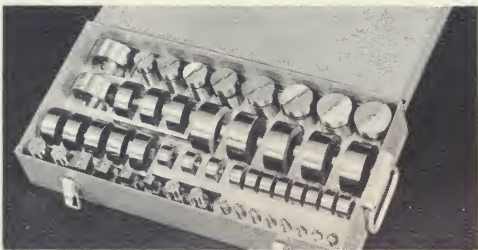
Round Punches and Dies — available in increments of .001" on request at no extra charge.

Square or irregular punches and dies — if special clearance is desired, add \$7.50 per set. Or if special size (between those listed) is desired, add \$15.00 per set to cost of nearest size, also specify clearance desired if other than standard.

BLANKING DIES

Rounds — available at no extra cost *without* shear on die. Shear on die reduces punching pressure required. If shear on die is desired, specify amount of shear and add \$7.50 to listed cost.

Square, Oval or Rectangular — If standard listed size add \$15.00. If in between size, use cost of next larger standard listed size and add \$15.00.



DI-ACRO PUNCH-PAKS

Punch-Paks are assortments of commonly used punches and dies stored in handy metal containers. These Punch-Paks eliminate production delays, save lost time looking for the right sizes or having to order special.

Punch-Pak No. 1 contains 30 sizes of round punches and dies, 3/64 through 1/2 in. in increments of 1/64 in. Net wt. 13 lb., Ship. wt. 18 lb.
Cost\$139.50

Punch-Pak No. 2 (illustrated) contains 8 rounds, sizes 1/16 through 1/2 in. increments of 1/16 in.; 12 rounds, sizes 1/2 through 2 in., increments of 1/8 in.; 4 squares in 1/2, 5/8, 3/4 and 1 in. sizes; Plus Std. Die Holder C, Adapters A and B. Net wt. 40 lb., Ship. wt. 45 lb.
Cost\$259.50

All Punches are Chrome Alloy Steel hardened 60-62 Rockwell C scale.

NOTE: These single station punches and dies are not interchangeable with the adjustable punches and dies on pages 38 through 39.

IMPORTANT

All Di-Acro single station punches and dies listed above and page 33 are also available for Di-Acro Turret Punch Presses. Costs are as shown EXCEPT all round punches to 1/2" diameter are \$3.25 each as they have a 1" diameter shank. When ordering, specify "for Turret Punch." Also specify if punch and die are for Di-Acro Turret Punch Press (sizes to 2 in. round or equivalent square or irregular shape only).

ROUND

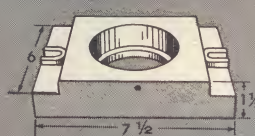
For Di-Acro Turret Punches add \$1.00 to cost of punch up to 1/2" in diameter.

SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST
Drill No's, 1 to 66	2	A	\$5.00	41/64				1-21/32			
1/32	2	A	5.00	21/32				1-11/16			
3/64	2	A	5.00	43/64	4	A	6.50	1-23/32	4	C	16.50
1/16	2.25	2.75	5.00	11/16	3.75	2.75	6.50	1-3/4	8.50	8.00	16.50
5/64	2.25	2.75	5.00	45/64				1-25/32			
3/32	2.25	2.75	5.00	23/32				1-13/16			
7/64	2.25	2.75	5.00	47/64				1-27/32			
1/8	2.25	2.75	5.00	3/4				1-7/8			
9/64	2.25	2.75	5.00	49/64				1-29/32			
5/32	2.25	2.75	5.00	25/32	4	B	9.00	1-15/16	4	C	17.50
11/64	2.25	2.75	5.00	51/64	3.75	5.25	9.00	1-31/32	4	D	21.00
3/16	2.25	2.75	5.00	13/16	4	B	9.00	2	10.75	10.25	21.00
13/64	2.25	2.75	5.00	53/64	3.75	5.25	9.00	2-1/16			
7/32	2.25	2.75	5.00	27/32	4	B	9.00	2-1/8	4	D	23.00
15/64	2.25	2.75	5.00	55/64	3.75	5.25	9.00	2-3/16	4	D	25.00
1/4	2.25	2.75	5.00	7/8	4	B	9.00	2-1/4	4	D	25.00
17/64	2.25	2.75	5.00	57/64	4	B	9.00	2-5/16			
9/32	2.25	2.75	5.00	29/32	3.75	5.25	9.00	2-3/8	4	D	23.00
19/64	2.25	2.75	5.00	59/64	4	B	9.00	2-7/16	4	D	23.00
5/16	2.25	2.75	5.00	15/16	3.75	5.25	9.00	2-1/2	11.75	11.25	23.00
21/64	2.25	2.75	5.00	61/64	4	B	9.00	2-9/16			
11/32	2.25	2.75	5.00	31/32	4	B	9.00	2-5/8			
23/64	2.25	2.75	5.00	63/64	4	B	9.00	2-11/16	4	D	25.00
3/8	2.25	2.75	5.00	1	4	B	9.00	2-3/4	4	D	25.00
25/64	2.25	2.75	5.00	1-1/32	4	B	9.00	2-13/16	4	D	25.00
13/32	2.25	2.75	5.00	1-1/16	4	B	9.00	2-7/8	4	D	25.00
27/64	2.25	2.75	5.00	1-3/32	4	B	9.00	2-15/16	4	D	25.00
7/16	2.25	2.75	5.00	1-1/8	4	B	9.00	3			
29/64	2.25	2.75	5.00	1-5/32	4	B	9.00	3-1/16	4	E	33.00
15/32	2.25	2.75	5.00	1-3/16	4	B	9.00	3-1/8	4	E	33.00
31/64	2.25	2.75	5.00	1-1/4	4	B	9.00	3-3/16	4	E	33.00
1/2	2.25	2.75	5.00	1-9/32	4	B	9.00	3-1/4	4	E	33.00
33/64	2.25	2.75	5.00	1-5/16	4	B	9.00	3-5/16	4	E	33.00
17/32	2.25	2.75	5.00	1-11/32	4	B	9.00	3-3/8	4	E	34.00
35/64	2.25	2.75	5.00	1-3/8	4	B	9.00	3-7/16	4	E	34.00
9/16	2.25	2.75	5.00	1-13/32	4	B	9.00	3-1/2	4	E	34.00
37/64	2.25	2.75	5.00	1-7/16	4	B	9.00	3-9/16	4	E	34.00
19/32	2.25	2.75	5.00	1-1/2	4	B	9.00	3-11/16	4	E	34.00
39/64	2.25	2.75	5.00	1-5/8	4	B	9.00	3-3/4	4	E	34.00
5/8	2.25	2.75	5.00	1-3/4	4	B	9.00	3-13/16	4	E	34.00
	2.25	2.75	5.00	1-7/8	4	B	9.00	3-1/2	4	E	34.00
	2.25	2.75	5.00	1-15/16	4	B	9.00	3-7/8	4	E	34.00
	2.25	2.75	5.00	1-7/8	4	B	9.00	3-15/16	4	E	34.00
	2.25	2.75	5.00	1-15/16	4	B	9.00	4			

SQUARE

SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	PUNCH COST	DIE STYLE COST	DIE COST	SET COST
1/8	2	A	15.00	19/32	4	B	24.00	1-3/16	4	14.00	C	20.00	34.00
5/32	2	A	15.00	21/32	4	B	24.00	1-1/4	4	14.50	C	20.50	35.00
3/16	5.00	11.00	16.00	11/16	9.50	15.50	25.00	1-5/16	4	15.00	C	21.00	36.00
7/32	2	A	15.00	23/32	4	B	26.00	1-3/8	4	15.50	C	21.50	37.00
1/4	5.50	11.50	17.00	3/4	10.00	16.00	26.00	1-7/16	4	16.00	C	22.00	38.00
9/32	2	A	18.00	25/32	4	B	27.00	1-1/2	4	16.50	C	22.50	39.00
5/16	6.00	12.00	18.00	13/16	10.50	16.50	27.00	1-9/16	4	17.50	D	23.50	41.00
11/32	6.50	12.50	19.00	27/32	4	B	28.00	1-5/8	4	18.00	D	24.00	42.00
3/8	6.50	12.50	19.00	7/8	11.00	17.00	28.00	1-11/16	4	18.50	D	24.50	43.00
13/32	4	A	20.00	29/32	4	B	29.00	1-3/4	4	19.00	D	25.00	44.00
7/16	7.00	13.00	20.00	15/16	11.50	17.50	29.00	1-13/16	4	19.50	D	25.50	45.00
15/32	4	A	21.00	31/32	4	B	30.00	1-7/8	4	20.00	D	26.00	46.00
1/2	7.50	13.50	21.00	1	12.00	18.00	30.00	1-15/16	4	20.50	D	26.50	47.00
17/32	4	A	23.00	1-1/8	13.50	19.50	33.00	2	4	21.00	D	27.00	48.00
9/16	8.50	14.50	23.00	1-1/4	13.50	19.50	33.00						

DIE HOLDERS

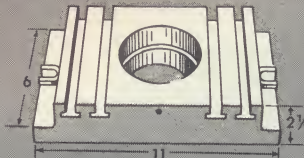


Standard Holders — \$15.00 each

Std. Holder	T-Slot Holder	Bore in Holder (in.)	Accommodates Die Style
A	F	1-1/4	A
B	G	2-1/8	B
C	H	2-3/4	C
D	I	3-3/4	D
E	J	4-3/4	E

Blank die holders (no center hole) available for special requirements at standard costs listed.

ADAPTERS



T-Slot Holders — \$24.50 each

Adapter	(all dimensions in inches)	Fits Die Holder(s)
A	1-1/4	C and H
B	2-1/8	C and H
C	1-1/4	E and J
D	2-1/8	E and J
E	2-3/4	E and J
F	3-3/4	E and J
G	1-1/4	B and G

Adapters A-B-G — \$5.00 ea. Adapters C-D-E-F — \$7.50 ea.

di-acro

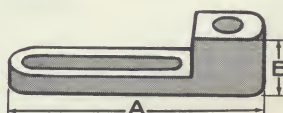
PRECISION
PUNCHES
AND DIES

ADJUSTABLE TYPE

CAPACITY

14 Gauge mild steel, 1/8" soft aluminum

HOLDERS FOR ADJUSTABLE PUNCHES and DIES



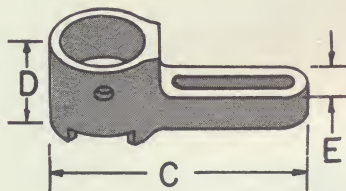
PUNCH HOLDER (APH)

Series 33 — 44 — 55 — 66



DIE HOLDER (ADH)

Series 33 — 44 — 55



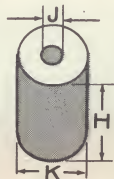
DIE HOLDER (ADH) — Series 66

SERIES 33 — For hole sizes to 3/8 in. round or equivalent irregular shapes. Minimum punch centers 3/4 in.

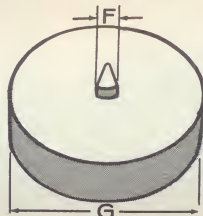
SERIES 44 — For hole sizes to 5/8 in. round or equivalent irregular shapes. Minimum punch centers 1-3/8 in.

SERIES 55 — For hole size to 1 in. round or equivalent irregular shapes. Minimum punch centers 1-3/4 in.

SERIES 66 — For hole sizes to 1-3/4 in. round or equivalent irregular shapes. Minimum punch centers 2-3/4 in.



PUNCH LOCATING PIN (PLP)



DIE LOCATING PLUG (DLP)

Dimensions

Dimension	series 33	series 44	series 55	series 66
A — Length of punch holder	3-3/4"	4-1/8"	4-1/2"	4 1/2"
B — Ht. of punch holder	1"	1"	1"	1"
C — Length of die holder	3-3/4"	4-7/16"	5"	6"
D — Ht. of die holder	1-1/2"	1-1/2"	1-1/2"	1-1/2"
E — Width of die holder	3/4"	1-3/8"	1-3/4"	2-3/4"
F — Diam. of pt. on die loc. Plug	1/4"	1/4"	1/4"	1/4"
G — Diam. of die loc. Plug	5/8"	1"	1-1/2"	2-1/4"
H — Ht. of punch loc. Pin	1-3/4"	2"	2"	2"
J — Hole in punch loc. Pin	1/4"	1/4"	1/4"	1/4"
K — Diam. of punch loc. Pin	3/8"	5/8"	1"	1"

Punch and Die Holder Cost

Item	series 33	series 44	series 55	series 66
Complete Set (APDH) *	\$24.00	\$30.00	\$42.00	\$48.00
Punch Holder (APH)	9.00	12.00	16.00	19.00
Die Holder (ADH)	15.00	18.00	26.00	29.00
Die Locating Plug (DLP)	2.50	3.50	4.50	5.50
Punch Locating Pin (PLP)	2.50	3.50	4.50	4.50

*Includes punch holder and die holder.

Hold down nut and socket head cap screw (5/16" dia.) for Outside Locking Adjustment of die set. Specify MHA or MHB die set. Cost per set \$.75.

Socket head cap screw (3/8") and washer (1/8") for Inside Locking Adjustment of die set. Cost per set \$.50.

Prices on all expendable accessories F.O.B. Lake City, Minnesota, U.S.A. — Subject to change without notice.

Punches marked with an asterisk () will be supplied with a 1-inch diameter shank for use in a series 55 punch holder if these sizes are desired for punching materials heavier than 16 gauge mild steel. Please notate order accordingly

ROUNDS

Capacity, 14 gauge mild steel

SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST
■ SERIES 33				■ SERIES 55			
Drill Nos. 1 to 66	AP-33 2.25	AD-33 2.75	5.00	41/64 21/32 43/64 11/16 45/64	AP-55 4.25	AD-55 4.75	9.00
1/32 3/64 1/16 5/64 5/32 3/32	AP-33 2.25	AD-33 2.75	5.00	23/32 47/64 3/4 49/64 25/32	AP-55 4.25	AD-55 4.75	9.00
7/64 1/8 9/64 5/32 11/64	AP-33 2.25	AD-33 2.75	5.00	51/64 13/16 53/64 27/32 55/64	AP-55 4.25	AD-55 4.75	9.00
3/16 13/64 7/32 15/64 1/4	AP-33 2.25	AD-33 2.75	5.00	7/8 57/64 29/32 59/64 15/16	AP-55 4.25	AD-55 4.75	9.00
17/64 9/32 19/64 5/16	AP-33 2.25	AD-33 2.75	5.00	61/64 31/32 63/64 1	AP-55 4.25	AD-55 4.75	9.00
21/64 11/32 23/64 3/8	AP-33 2.25	AD-33 2.75	5.00	■ SERIES 66			
■ SERIES 44				1-1/32 1-1/16 1-3/32 1-1/8 1-5/32	AP-66 6.50	AD-66 8.00	14.50
25/64 13/32 27/64 7/16 29/64	AP-44 3.25	AD-44 3.75	7.00	1-3/16 1-7/32 1-1/4 1-9/32 1-5/16	AP-66 6.50	AD-66 8.00	14.50
15/32 31/64 1/2 33/64* 17/32* 35/64*	AP-44 3.25	AD-44 3.75	7.00	1-11/32 1-3/8 1-13/32 1-7/16	AP-66 6.50	AD-66 8.00	14.50
9/16* 37/64* 19/32* 39/64* 5/8*	AP-44 3.25	AD-44 3.75	7.00	1-15/32 1-1/2 1-17/32 1-9/16 1-19/32	AP-66 7.50	AD-66 8.00	15.50
■ SQUARE				1-5/8 1-21/32 1-11/16 1-23/32 1-3/4	AP-66 7.50	AD-66 8.00	15.50
Capacity, 14 gauge mild steel				■ SERIES 33			
SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST	SIZE	PUNCH STYLE COST	DIE STYLE COST	SET COST
■ SERIES 33				■ SERIES 55 (continued)			
1/16 3/32 1/8 5/32 3/16 7/32 1/4	AP-33 10.50	AD-33 11.50	22.00	19/32 5/8 21/32 11/16	AP-55 13.00	AD-55 14.50	27.50
■ SERIES 44				■ SERIES 66			
9/32 5/16 11/32* 3/8 13/32 7/16*	AP-44 10.50	AD-44 11.50	22.00	23/32 3/4 25/32 13/16	AP-66 15.50	AD-66 17.50	33.00
■ SERIES 55				27/32 7/8 29/32 15/16 31/32 1 1-1/16 1-1/8 1-3/16	AP-66 15.50	AD-66 17.50	33.00
15/32 1/2 17/32 9/16	AP-55 13.00	AD-55 14.50	27.50				

OVAL

†† Fits Di-Acro Punch Press No. 5 (OBI)

IMPORTANT: PLEASE READ BEFORE ORDERING

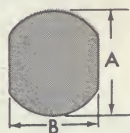
Punches and dies in the single station program and the adjustable program are not interchangeable. Length of punch shank and height of die button in the adjustable program are deliberately shorter so that they will fit a press with minimum shut height of 6-1/4". It is important that you specify the style of punches and dies when ordering. List whether for use with standard punches and dies, turret punches and dies or the adjustable punch and die program.

■ **NOTCHING**



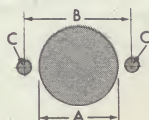
Size	Punch Cost	Die Cost	Set Cost
90°-1"	17.50	22.50	40.00
60°-1-7/16"	55.00	60.00	105.00
90°-2"			

■ **DOUBLE 'D' SHAPE**



A	Size B	Punch Cost	Die Cost	Set Cost
.391	.344	14.00	21.00	35.00
.516	.468	14.00	21.00	35.00
.630	.562	14.00	21.00	35.00
.760	.640	14.00	21.00	35.00
1.360	1.141	19.00	26.00	45.00

■ **7 and 9 PIN TUBE BASE — Capacity, 16 gauge mild steel**



A	Size B	C	Punch Cost	Die Cost	Set Cost
.6406	.8750	.098	40.00	25.00	65.00
.7812	1.125	.098	40.00	25.00	65.00

■ **KEYWAY**



Punch Cost	Die Cost	Set Cost
15.00	25.00	40.00

■ **CORNER ROUNDING**



Radius Size	Punch Cost	Die Cost	Set Cost
1/8	22.00	33.00	55.00
3/16	22.00	33.00	55.00
1/4	22.00	33.00	55.00
5/16	22.00	33.00	55.00
3/8	35.00	50.00	85.00
1/2	35.00	50.00	85.00
5/8	35.00	50.00	85.00
3/4	35.00	50.00	85.00
7/8	35.00	50.00	85.00
1	35.00	50.00	85.00

■ **"D" SHAPE**



A	Size B	Punch Cost	Die Cost	Set Cost
.315	.281	12.00	18.00	30.00
.375	.343	12.00	18.00	30.00
.406	.359	12.00	18.00	30.00
.440	.410	12.00	18.00	30.00
.505	.473	12.00	18.00	30.00
.562	.541	12.00	18.00	30.00
.630	.590	12.00	18.00	30.00

■ **BALL BEARING DIE SETS • BACK and CENTER POST TYPES**

■ **BACK POST • STYLE MHA**

CATALOG NUMBER	PRICE
ADS-13	225.00
ADS-16	275.00
ADS-19	335.00

■ **CENTER POST-STYLE MHB**

CATALOG NUMBER	PRICE
ADS-26	450.00
ADS-32	545.00
ADS-44	670.00

■ **BACK POST • STYLE ADS FOR PRESS BRAKES**

CATALOG NUMBER	PRICE
ADS-24	325.00
ADS-48	435.00
ADS-72	545.00
ADS-96	655.00

■ **HEXAGON CUTOUTS**



Size B	Punch Cost	Die Cost	Set Cost
1/4	17.00	23.00	40.00
3/8	17.00	23.00	40.00
1/2	17.00	23.00	40.00

■ **ELECTRICAL OUTLET KNOCKOUT**



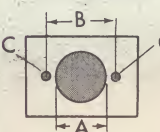
Conduit Size	Hole	Punch Cost	Die Cost	Set Cost
3/8	11/16	8.50	6.50	15.00
1/2	7/8	10.00	7.00	17.00
3/4	1-1/16	11.00	8.00	19.00
1	1-3/8	12.00	9.00	21.00

■ **KEYHOLE**



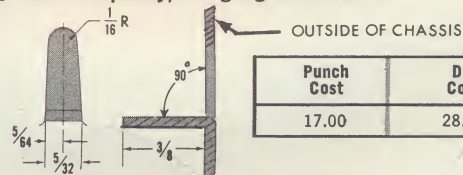
A	Size B	C	Punch Cost	Die Cost	Set Cost
1/4	1/8	7/16	30.00	25.00	55.00
3/8	3/16	5/8	30.00	25.00	55.00
1/2	1/4	7/8	35.00	25.00	60.00
5/8	5/16	1	35.00	25.00	60.00
3/4	3/8	1-1/4	35.00	25.00	60.00

■ **RECEPTACLE — Capacity, 16 gauge mild steel**



A	B	C	Punch Cost	Die Cost	Set Cost
1-1/8	1-1/2	3/16	35.00	25.00	60.00
1-3/8	1-13/16	3/16	35.00	25.00	60.00

■ **TAB — Capacity, 16 gauge mild steel**



Punch Cost	Die Cost	Set Cost
17.00	28.00	45.00

■ **TRIM AND CUT OFF***



Radius Size	Width	Punch Cost	Die Cost	Set Cost
1/8	1/4	45.00	50.00	95.00
3/16	3/8	45.00	50.00	95.00
1/4	1/2	45.00	50.00	95.00
5/16	5/8	45.00	50.00	95.00
3/8	3/4	50.00	60.00	110.00
7/16	7/8	50.00	60.00	110.00
1/2	1	50.00	60.00	110.00
3/4	1-1/2	60.00	65.00	125.00

*For standard and turret punch only.
Adjustable program requires special quotation.



NEW DI-ACRO SHEAR NO. 36— Underdriven Type

It's shear easy with the new Model 36 Di-Acro Shear. A combination eccentric-leverage design provides much greater mechanical advantage when shearing than is possible with a leverage type shear. Inclined ram reduces shearing force, bed adjusted lower blade enables fine adjustment of blade after re-sharpening. Material Hold-down Bar and micrometer gauging are standard equipment. Maximum material capacity is 16 gauge mild steel ($\frac{1}{8}$ " aluminum) across a full 36" width.



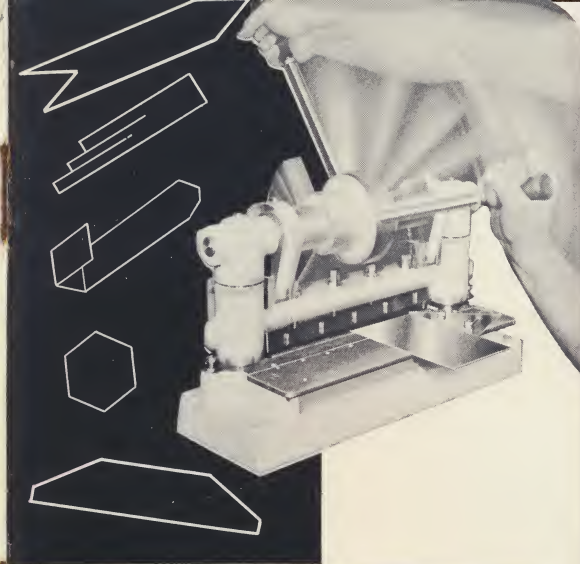
Di-Acro is pronounced die-ack-ro. It is the registered brand name for both hand and power operated Benders, leaf-type Brakes, Notchers, Punch Presses, Press Brakes, Turret Punch Presses, Rod Parters, Rollers, Shears and Spring Winders made in the U.S.A. by

O'NEIL-IRWIN MFG. CO.

Lake City, Minnesota

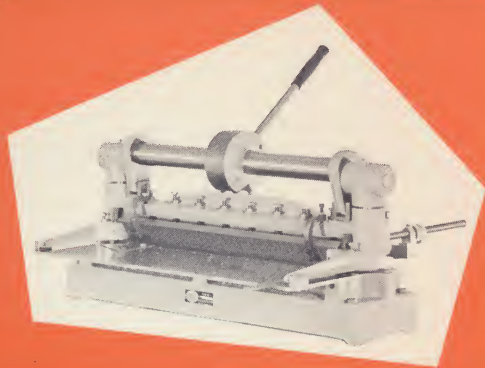
D-MS

Printed in U.S.A.



**Precise
"Burr-Free"
Shearing with
DI-ACRO
SHEARS**





Fast, accurate gauging is possible on Di-Acro Shears using the Quik-Set Micrometer Gauge. Gauge can be angled for special shearing jobs. Material Hold-Down Bar prevents material from slipping when shearing and also acts as a safety guard.

Hold-down bar in standard equipment on all shears with 12" and larger shearing widths.

QUICK-FACTS about Di-Acro Shears

Precision — strips less than .025" wide accurately sheared, parts exactly duplicated.

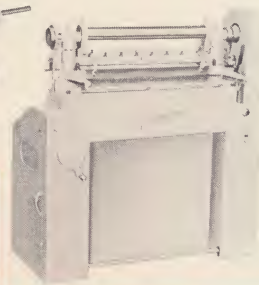
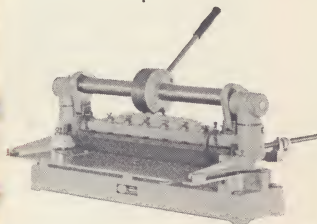
Capacity — 16 gauge mild steel, 1/8" aluminum.

Simplicity — no experience needed to operate.

Rugged construction — backed by warranty.

Selection — available both hand and power operated in overdriven models and new underdriven models.

Economy — both initial and operating costs are rock bottom.



Overdriven Type

SPECIFICATIONS and CAPACITIES

DI-ACRO SHEARS Hand Operated

	No. 1	No. 2	No. 3	No. 4
Maximum Shearing Width	6"	9"	12"	24"
Material Capacity— Sheet Steel	16 gauge	16 gauge	16 gauge	16 gauge
Net Weight	35 lbs.	80 lbs.	150 lbs.	275 lbs.

DI-ACRO SHEARS Power Operated

	Vari-O-Speed		Standard	
	No. 12	No. 24	No. 12	No. 24
Maximum Shearing Width	12"	24"	12"	24"
Maximum Capacity— Sheet Steel	16 gauge	16 gauge	16 gauge	16 gauge
Strokes Per Minute (Either Range Optional)	30 to 150 40 to 200	30 to 150 40 to 200	180	90
Motor—Optional 110-220 Volt A.C. single phase or 220-440 Volt A.C. three phase	1/2 hp*	1/2 hp*	1/2 hp	3/4 hp**
Motor Speed	1750 rpm	1750 rpm	1750 rpm	1750 rpm
Operating Height	34"	34"	34"	34"
Floor Space	18 1/2 x 30"	18 1/2 x 40"	18 1/2 x 30"	18 1/2 x 40"
Net Weight	475 lbs.	675 lbs.	510 lbs.	675 lbs.

*U. S. Varidrive Motor

**U. S. Syncrogear Motor